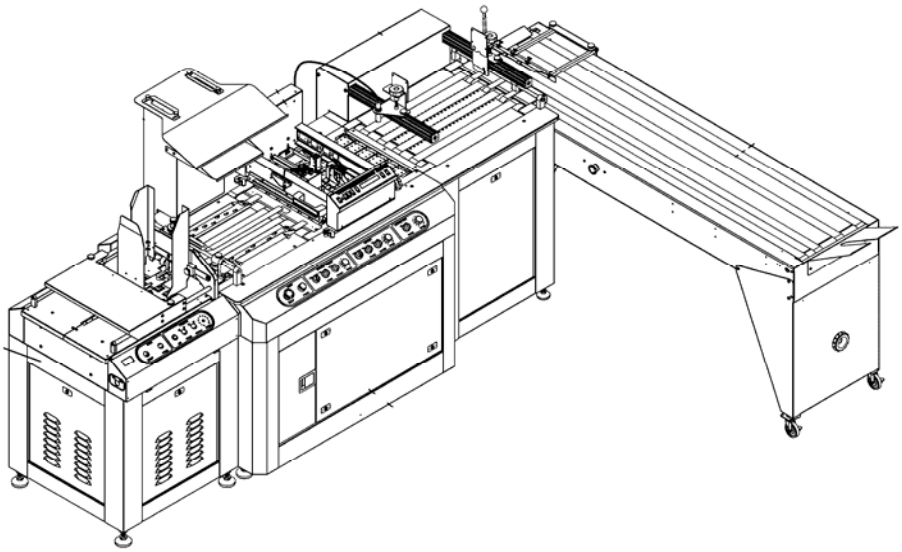

XPS-ProMail System

XPS-ProMail Base, XPS-ProMail 3.0/4.0 print system,
XPS-ProDry 8.0 Base, XPS-ProFeed Shuttle & TB-659 Conveyor

SERVICE MANUAL

Preliminary

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Part #: M-?

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SUPPLIES 66

DRYER SAFETY PRECAUTIONS

THE FOLLOWING MUST BE READ AND UNDERSTOOD BEFORE OPERATING THE DRYER!

DUE TO THE NATURE OF THE DRYER, IT PRESENTS UNIQUE HAZARDS AND RISKS THAT MUST BE UNDERSTOOD AND OBSERVED. DUE TO THESE HAZARDS, THE OPERATION AND USE OF THE DRYER REQUIRES SPECIAL ATTENTION.

THE DRYER PRESENTS THE FOLLOWING HAZARDS:

FIRE HAZARD: If media is left under the dryer lamps for more than a few seconds, it will ignite.
SEVERE PERSONAL INJURY or DEATH HAZARD: If you touch the hot surface of the dryer or dryer base, a serious burn will result. Shock hazards are present, when not properly used/connected.

The XPS-ProDry must be used correctly to prevent injury, death and or property damage.

- ✓ Do NOT use the dryer unless you fully understand the risks associated with the dryer and you are willing to accept those risks.
- ✓ Do NOT leave the dryer unattended. If a jam occurs under the dryer lamps, a fire can result within a few seconds.
- ✓ A fire extinguisher (rated for energized electrical equipment and wood/paper/plastic/cloth fires) must be available and must be easily accessible at all times.
- ✓ An inexperienced operator should NOT be allowed to use the dryer. Severe personal injury and or property damage could result.
- ✓ Keep hands, hair, and clothing clear of dryer, dryer lamps, dryer rollers, belts and other moving parts.
- ✓ Avoid touching moving parts or materials while the machine is in use. Before clearing a jam, be sure machine mechanisms come to a stop and dryer lamps are turned off. Press the Emergency Stop button.
- ✓ Allow the dryer lamps to cool down for at least 5 minutes (lamps off, blowers on) before touching or cleaning the dryer or dryer lamps.
- ✓ Always turn off the machine before making adjustments, cleaning the machine, or performing any maintenance covered in this manual.
- ✓ The Dryer requires 240V and should be connected by a qualified electrician. It must be properly grounded. Failure to properly ground the dryer and dryer base can result in sever personal injury, death and/or fire.
- ✓ The power cord and wall plug is the primary means of disconnecting the machine from the power supply.
- ✓ DO NOT use an adapter plug on the line cord or wall outlet.
- ✓ DO NOT route the power cord over sharp edges or trapped between furniture.
- ✓ Avoid using wall outlets that are shared with other equipment.
- ✓ Make sure there is no strain on the power cord caused by jamming between the equipment, walls or furniture.
- ✓ DO NOT remove covers. Covers enclose hazardous parts that should only be accessed by a qualified service representative. Report any damage of covers to your service representative.
- ✓ This machine requires periodic maintenance. Contact your authorized service representative for required service schedules.
- ✓ To prevent overheating, do not cover the vent openings.
- ✓ Use this equipment only for its intended purpose.

GENERAL SAFETY PRECAUTIONS

CERTAIN SAFETY RULES MUST BE OBSERVED WHEN OPERATING THE XPS-PROMAIL SYSTEM.

BEFORE USING OR SERVICING THE SYSTEM, YOU SHOULD READ THIS MANUAL CAREFULLY AND FOLLOW THE RECOMMENDED PROCEDURES, SAFETY WARNINGS, AND INSTRUCTIONS:

- ✓ Keep hands, hair, and clothing clear of rollers and other moving parts.
- ✓ Avoid touching moving parts or materials while the machine is in use. Before clearing a jam, be sure machine mechanisms come to a stop.
- ✓ Always turn off the machine before making adjustments, cleaning the machine, or performing any maintenance covered in this manual.
- ✓ Use the power cord supplied with the machine and plug it into a properly grounded wall outlet located near the machine and easily accessible. Failure to properly ground the machine can result in sever personal injury and/or fire.
- ✓ The power cord and wall plug is the primary means of disconnecting the machine from the power supply.
- ✓ DO NOT use an adapter plug on the line cord or wall outlet.
- ✓ DO NOT remove the ground pin from the line cord.
- ✓ DO NOT route the power cord over sharp edges or trapped between furniture.
- ✓ Avoid using wall outlets that are controlled by wall switches, or shared with other equipment.
- ✓ Make sure there is no strain on the power cord caused by jamming between the equipment, walls or furniture.
- ✓ DO NOT remove covers. Covers enclose hazardous parts that should only be accessed by a qualified service representative. Report any damage of covers to your service representative.
- ✓ This machine requires periodic maintenance. Contact your authorized service representative for required service schedules.
- ✓ To prevent overheating, do not cover the vent openings.
- ✓ Use this equipment only for its intended purpose.

In addition, follow any specific occupational safety and health standards for your workplace or area.

WARNING

THERE ARE HIGH VOLTAGES PRESENT BEHIND THE COVERS OF THE XPS-ProMail SYSTEM!

This manual is intended solely for the use and information of Rena Systems Inc., its designated agents, customers, and their employees. The information in this guide was obtained from several different sources that are deemed reliable by all industry standards. To the best of our knowledge, that information is accurate in all respects. However, neither Rena Systems Inc. nor any of its agents or employees shall be responsible for any inaccuracies contained herein.

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SECTION 1 – Service Diagnostic Tests

TEST PRINT key

Pressing the **TEST PRINT** key momentarily will place the printer into the Test Printing mode. Press the **ENTER** key to print a test sheet.

To access the Service Menu mode press and hold the **TEST PRINT** key until "Service Menu" is displayed on the printer control panel. Use the **+** or **–** key to step through the following test options:

Loading a Test Print Image

1. Create the Test Print layout using any common application (MS Word, Flex Mail…).
2. Connect the printer and computer via parallel port or USB port.
3. Hold the Test Print key on printer control panel and turn the printer on. Release the key when message "**Test Job to be saved – Preparing the flash area"** appears. Message will change to "**Test Job to be Saved – Waiting for job data**" and Test Print light will come on. Printer is now ready for downloading.
4. Send "Print" one record to the printer.
5. Message will change to "**Test job's been Saved – Saving: xxxxxx** "(size of file)

NOTE: All printing parameters such a head alignments, feeder delay, speed, quality, language and orientation will be stored in flash memory together with file.

Drive Speed Test

Press the **ENTER** key to start the main drive motor and display the belt speed in inches per second. Press the **ENTER** key to stop the main drive motor. If the main drive motor does not start, the main drive motor circuitry has a problem. No reading in inches per second indicates an encoder problem.

Motor Test

Press the **ENTER** key to start the main drive motor. Press the **ENTER** key to stop the main drive motor. The main drive motor not starting indicates a problem in the main drive motor circuitry.

Clutch Test

Press the **ENTER** key to start the main drive motor and turn on the feed clutch. Press the **ENTER** key to turn off the feed clutch. If the clutch does not engage there is a problem with the clutch circuitry.

Sensor Test

Press the **ENTER** key to display the state of the paper sensor. Uncovered displays when the sensor is **NOT** covered. Covered displays when the sensor **IS** covered. Use a strip of paper inserted in the sensor area to test its function. Failure to switch between the tow messages indicates a problem in the sensor circuitry.

Power Supply Test

Press the **ENTER** key to display the voltage reading of the main power supply. The nominal reading is between 13.5 and 14.5 volts. The power supply may need adjusting to bring the value within the nominal range.

Encoder Test

Press the **ENTER** key to display the current encoder count reading. Move the exit roller. If the number does not increase, this indicates an encoder failure.

Keyboard Test

Press the **ENTER** key to test the function of the individual keys on the keyboard. When a key is pressed the display shows the key name. To exit this test you must power the printer OFF.

Head Lift Test

The head lift test is not applicable to this system as the head adjustment is mechanical.

Ink Levels

The Ink Levels in each of the cartridges are displayed in this mode as a percentage. This will only display properly if the operator resets the system when a new cartridge is installed.

Notes

SECTION 2 – Maintenance

This section discusses how to care for the inkjet cartridges, clear paper jams, and perform routine maintenance to the XPS-ProMail System.

The Inkjet Cartridge

The inkjet cartridges must be replaced when out of ink, when print quality is poor, or when purging and cleaning have not helped the image quality.

The Approximate life of the HP 51645A Inkjet cartridges based on three lines of 20 characters at 10-point size per address is:

PCL Version:

600 X 600 DPI	50,000 addresses
300 X 600 DPI	100,000 addresses
200 X 600 DPI	150,000 addresses
150 X 600 DPI	200,000 addresses

NOTE: These figures can vary depending on the font selected. The bulk ink cartridge will print approximately 10 times the number of address as a standard cartridge.

Replacing the Inkjet Cartridge:

1. Remove the used cartridge from the cartridge holder by raising the latch lever to release the cartridge, and then pull the cartridge up and out of the holder.
2. Remove the new inkjet cartridge from its packaging, taking care not to touch the copper contacts, the metal plate, or the gold printhead. Remove the protective tape from the printhead.
3. With the cartridge's printhead pointing down, slide the cartridge into the holder and push down and toward the contacts in the holder.
4. Make sure the cartridge is seated in the holder then close the lever to secure the cartridge in the holder. Do not force the lever into place.
5. Repeat the above for the remaining cartridges.

CAUTION

NEVER SHAKE, DROP, OR HIT THE CARTRIDGE AGAINST THE PALM OF YOUR HAND OR ANY OTHER HARD SURFACE. SHAKING THE PRINT CARTRIDGE DOES NOT "MIX" THE INK AND HITTING THE CARTRIDGE AGAINST A HARD SURFACE DOES NOT CLEAR THE NOZZLES BOTH OF THESE ACTIONS ACTUALLY HURT THE PRINT QUALITY BECAUSE THEY ALLOW BUBBLES TO FORM NEAR THE INK FIRING CHAMBERS. THESE BUBBLES PREVENT THE NOZZLES FROM FIRING CAUSING WHITE STREAKS IN THE PRINT IMAGE.

Storage

Short-term storage is defined as less than 2 days or less than 1 day in a hot and dry environment. Long-term storage is defined as more than 2 days or more than 1 day in a hot and dry environment.

Short-term Storage

Leave the cartridge in the XPS-ProMail 3.0/4.0 printer for short periods of time, 1 day or less.

The next time that the XPS-ProMail 3.0/4.0 printer is used, the printhead may have to be cleaned and purged.

Long-term Storage

Keep the printhead in an area that is relatively free of dust and paper particles that is not too dry

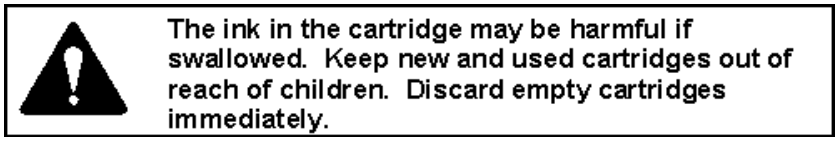
Place the standard cartridges in a Tupperware container with a damp sponge or towel to maintain humidity and prevent the printhead from drying out.

When the cartridges are ready to be used again, the printhead will need to be cleaned.

Disposal

The cartridges may be disposed of in a normal manner.

If there should be an ink spill, use soap and water to clean up any problem areas. Abrasive soap works well to get the ink off hands.


The ink in the cartridge may be harmful if swallowed. Keep new and used cartridges out of reach of children. Discard empty cartridges immediately.

Cleaning the Printhead (Inkjet Cartridge)

To maintain good print quality it is important that the printheads are kept clean. During the printing process ink spray, paper fibers, and dust can cause a build-up on the printheads. This build-up will eventually degrade the print quality. If you begin to notice problems with the quality of the print, or to just prevent a build-up from occurring with the printhead with a wet fiberless cloth such as Tex-Wipes.

Cloth should be:	*Cloth should not be:*
✔ Soft	✕ Abrasive
✔ Fiberless	✕ Made of small fibers
✔ Moist with Water (Distilled is best but tap works)	✕ Dry or containing chemical additives

Wipe slowly across the long-axis with the printhead facing down (as shown). Do not apply excessive force, as this could scratch the nozzle area.

Purging the Nozzles

If the printhead sits inactive for a period, ink may dry in the nozzles. Printing may not remove these “ink plugs” from the nozzles. White streaks will then show up in the printed text or graphic. In order to obtain better print quality, these ink plugs need to be forced out or purged. A Purge routine is built into the XPS-ProMail 3.0/4.0 Printer. It can be accessed from the LCD panel on the XPS-ProMail 3.0/4.0 Printer. If this does not solve the problem then proceed as follows:

1. Wipe the printhead with a wet cloth as described in "*Cleaning the Printhead"* above.
2. Perform the Purge routine from the XPS-ProMail 3.0/4.0 Printer LCD Display panel.
3. Wipe the printhead again with a moist cloth.

NOTE: For more information refer to the Troubleshooting Print Heads in the “Trouble Shooting” Section.

Jams under the XPS-ProMail 3.0/4.0 Printer

If a jam occurs, **STOP the Printer**. The missed addresses can be recovered at the computer from the control panel by stepping back to the place in the job where the jam occurred. No data will be lost.

Some possible reasons for jamming are:

1. Feeding more than one piece of media.
2. Damaged media, such a dog-eared (turn down corners).
3. Media that is not stiff enough and may not be usable. Media that meets Postal stiffness requirements for automated feeding is acceptable in the XPS-ProMail System.
4. Envelopes that are caught under the flap of another envelope or stuck to one another may cause jamming.

Removing Jammed Media

The XPS-ProMail 3.0/4.0 printer is equipped with a hinge device that permits it to be swung in the up position to remove any jammed media. First turn off the system by pressing one of the **STOP** buttons. To release the printer, press down on the grab handle and release the two latches on the left-hand side that lock the printer in place. Then raise the printer using the grab handle.

Refer to the appropriate printer operating manual for job restart information.

Cleaning

WARNING

THE XPS-ProMail SYSTEM IS A PRECISION MACHINE THAT SHOULD BE CLEANED REGULARLY TO INSURE MANY YEARS OF SERVICE.

BEFORE PERFORMING ANY MAINTENANCE, DISCONNECT THE MACHINE FROM ITS POWER SOURCE!

The XPS-ProMail System must be cleaned regularly of accumulated paper dust and ink. Depending on the types of media that are run, paper dust may accumulate within the printer and on the transport. Unplug the system from the power receptacle before removing the covers.

The internal areas are best cleaned with a vacuum that has a soft brush attachment to help loosen the dust particles. Take care not to damage the PC Boards or electrical wiring.

The exterior of the machine may be cleaned with any standard household cleaner, which is non-abrasive and does not contain plastic harming solvents.

CAUTION

NEVER SPRAY OR POUR CLEANERS DIRECTLY ON OR INTO THE XPS-ProMail SYSTEM.
EXCESS LIQUID COULD HARM ELECTRONIC PARTS.
ALWAYS DAMPEN A RAG WITH THE CLEANER AND APPLY IT TO THE PARTS TO BE CLEANED.

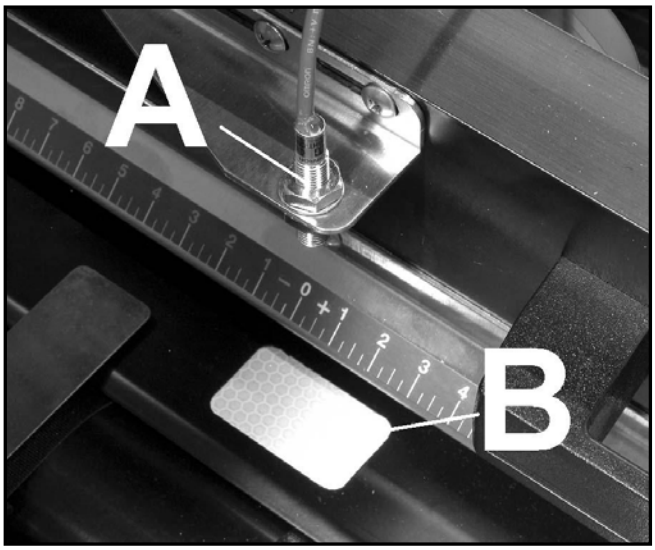
Cleaning the Printer's Media Thickness Adjustment Mechanism

At least on a yearly basis, (more often if the machine is operated in a dusty environment) remove the covers and clean the PC Boards by blowing off the accumulated dust with air.

Clean the raise and lower mechanism, lubricate the gears with white grease, and lightly oil the bearings and shaft.

Cleaning the Printer's Media Sensors

Periodically check the media sensors [A], one is located on the printer and one is located just before the dryer. The sensor is self-contained in that the light source and the sensor are both in the assembly. Directly below the sensor mounted on the base table is a reflective strip. The reflective strip [B] reflects the light from the sensor back to the sensor when no media is present. As media passes under the sensor, the reflection from the media tells the printer it is time to print.



The sensor and light source should be kept clean and free of dust. The reflective strip should be kept clean of dust and dirt.

The sensor can be cleaned with a Q-tip, by gently dusting it. The reflective strip can be cleaned with a mild soap solution on a damp cloth. Should the reflective strip become scratched or worn it should be replaced, as the system cannot function properly without it.

Cleaning the Dryer & Dryer Lamps

CAUTION!

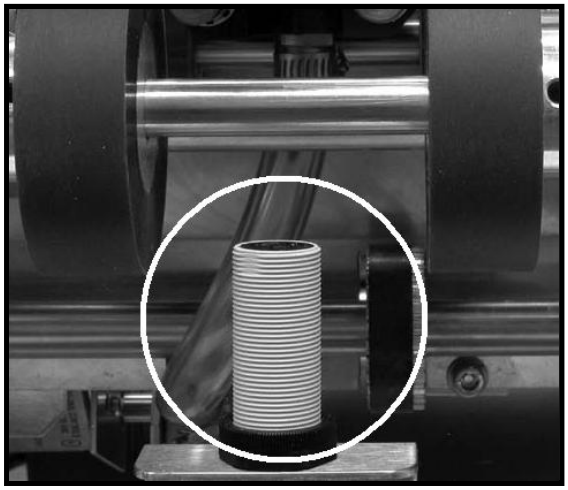
- Power the lamps off and allow them to cool for at least 5 minutes before touching the dryer.
- Turn off the main power switch and or disconnect the dryer from the wall outlet, before attempting to clean the dryer or dryer lamps.
- Do not touch the dryer lamps with your bare hands, even if they are cool. Doing so will deposit oils on the lamps, causing the lamps to overheat and be damaged.

The exterior of the dryer may be cleaned with any standard household cleaner, which is non-abrasive and does not contain plastic harming solvents.

After the lamps have cooled for at least 5 minutes, use a soft, dry, cotton cloth, and carefully wipe the lamps. Do not use any liquids to clean the lamps.

Cleaning the XPS-ProFeed Shuttle Media Sensor

1. The Shuttle Feeder Media Sensor is located below and between the lower Feed Rollers.
2. Use a Q-tip or photographic brush to remove any lint or paper particles.



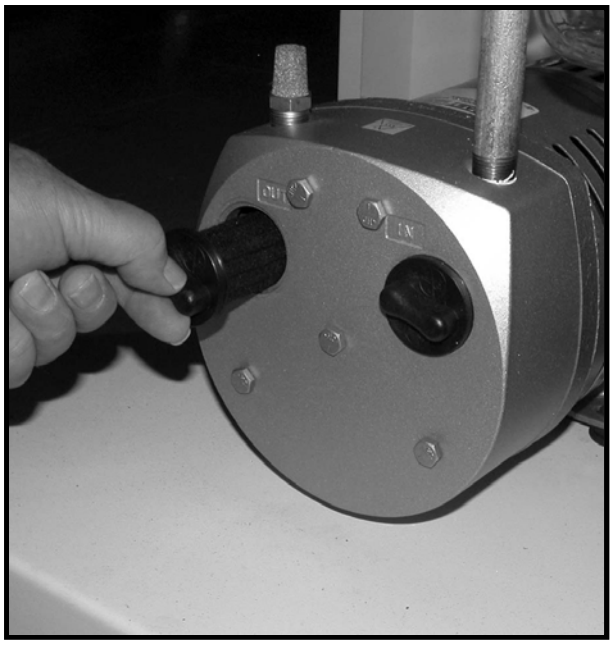
CAUTION

DO NOT USE SOLVENTS OR ABRASIVES TO CLEAN THE SENSORS.

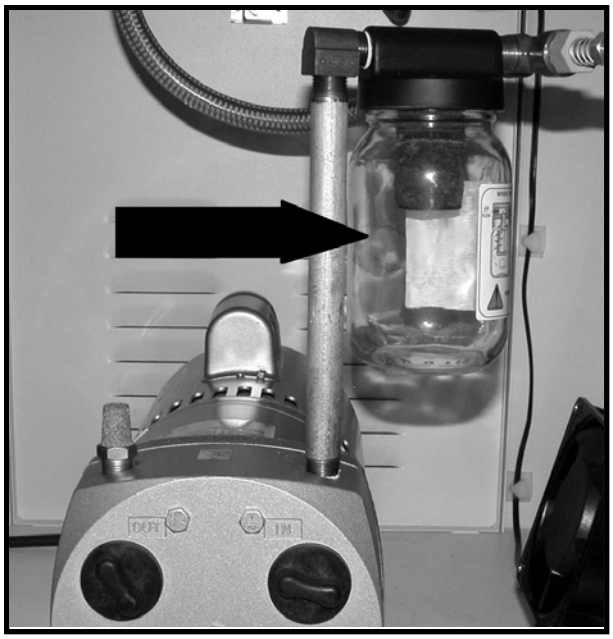
Vacuum Pump Service

The Vacuum Shuttle Feeder is equipped with an Oilless Vacuum Pump. It does not require lubrication however it does require cleaning.

1. Remove the two Filter Assemblies in the front of the pump and brush the filters with a stiff brush regularly.



2. The vacuum shuttle feeder is also equipped with a filter in the Vacuum Shuttle line. The jar should be removed and both it and the filter should be cleaned regularly.



CAUTION

THE VACUUM PUMP IN THE SHUTTLE FEEDER IS AN OILLESS PUMP.

DO NOT ATTEMPT TO PUT OIL OF ANY KIND IN THE PUMP

Notes

SECTION 3 – Troubleshooting

This section is arranged by first the condition that might occur, and then by possible problems, their cause and recommended solutions.

WARNING

THERE ARE HIGH VOLTAGES PRESENT BEHIND THE COVERS OF THE XPS-ProMail SYSTEM!

Power Problems

CONDITION	PROBLEM	SOLUTION
Power is on, nothing happens.	No power to printer or base	Check that the power cord is plugged in. Check that the power outlet is live. Check the fuses on the power supply PC Board. (Requires disassembly) Bad controller PC Board Bad power supply

Interface Communication Problems

CONDITION	PROBLEM	SOLUTION
Printer does not respond to software.	Connection problems	Check that port is communicating with printer by using another parallel cable. Replace cable. If port cannot communicate using another parallel cable, check printer. If port cannot communicate using another parallel and the printer is OK, check parallel port. Check cable connection to see if any of the pins are bent or missing. If so replace cable.
Printer not responding to software	Poor connection between printer and computer	Turn printer off and on again. Check connections.

LCD Display Problems

CONDITION	PROBLEM	SOLUTION
No LCD display	Power not on	Turn power switch on. If still no display see Power Problems
	Contrast pot broken or maladjusted	Adjust pot or replace display PC Board.
	Broken solder joint on contrast pot	Repair or replace the display PC Board.
LCD shows solid line of characters or garbage.	Power supply	Check voltages and inspect the power supply connections to the processor PC Board.
	Static electricity	Turn printer off and then on
LCD displays solid black line or lines	Bad power supply No firmware (BIOS) Bad processor PC Board	Check all voltages Install firmware Replace processor PC Board

Feeding Problems

CONDITION	PROBLEM	SOLUTION
Intermittent feeding	Feed ramp not used	The feed ramp adds a slope to the stack and helps feeding.
	Side guides set improperly	Loosen the side guides slightly.
	Dirty feed rollers	Clean the feed roller with distilled water and a cloth. DO NOT use any solvents or detergents as they may damage the feed rollers.
	Paper stuck together	Fan media before placing it in printer
	Bad or dirty sensor	Clean sensor with compressed air or replace it.
	Uneven mail piece	Tap inserts to front of envelopes and retry.
Multiple feeds	Separator gap not set properly.	Adjust separators to thickness of media.
	Sensor bad or dirty	Clean sensor with compressed air or replace it.
	Media stuck together.	Fan media before feeding
Multiple feeds continued	Side guides too close to media	Push side guides away from media.
	Brake misadjusted.	Adjust brake (see Section 4-Adjustments)

CONDITION	PROBLEM	SOLUTION
Failure to feed	Side guides too close to media	Readjust side guides
	ENTER key not pressed.	Check the power button is ON and that the power cord is plugged in.
	No power to printer.	
	Feed gap too tight.	Adjust separator to thickness of media
	Feed gap too loose	Adjust separator to thickness of media.
	Material is out of specification.	Maximum thickness is 1/4” or 0.125”
	Motor on, feed rollers not turning	Press the **ENTER** key, check for broken drive belt and replace, check for loose set screws on drive pulley or belt drive roller pulley.
	Clutch not engaging.	Replace Clutch.
	Motor failure	Check motor circuit breaker or replace motor.
	No power	See Power Problems in this Section.
	Printhead adjustment too low	Adjust printhead height to accommodate the media thickness.
Jams	Paper path obstruction	Clear jam and remove pieces remaining under printhead.
	Paper not loaded properly	Instruct operator in proper loading of media.
	Feed ramp not used properly	Set feed ramp
	Separators improperly adjusted	Adjust separators to thickness of media.
	Media curled or bent.	Uncurl media.
	Bad or Dirty Sensor	Clean or replace sensor.
Jams continued	Worn separator tip	Replace separator tip.
	Printhead adjusted too low.	Raise printhead
	Conveyor tape(s) under printhead broken.	Replace tapes.

Print Placement Problems

CONDITION	PROBLEM	SOLUTION
Print too close to leading or trailing edge of media	Size of media not set correctly in Layout Bad or dirty sensor Feed ramp not used properly Printheads set incorrectly	Check layout in layout for proper size Clean or replace sensor Set feed ramp Check the location and margins in layout software. Check that the piece on the layout screen looks exactly the way you want the piece to look. Remember that there is a 1 5/16" space that is always blank between Head 4 and 5 and the Head 1, 2, and 3 bank
Print too high or low on the media	Physical location of printhead does not match the layout template	Adjust the paper guides or printheads Use the "0" reference point in the center of the scale to help you align the print on the media
Address prints upside down on media	Layout and/or stock direction incorrect	Change direction from Normal to Inverted or Inverted to Normal in the Properties of the Driver.
Address too close to center of media	Chosen media size in layout is too small The physical location of the printheads do not match the layout Feed ramp not set properly	Set correct media width size in layout Check image on layout screen, Adjust paper guide or printhead Adjust feed ramp
Address printing partially off media	Chosen media size in layout is too large The physical location of the printheads do not match the layout Feed ramp not set properly	Set correct size from in layout Check image on layout screen, Adjust paper guide or printhead Adjust feed ramp

Print Content Incorrect

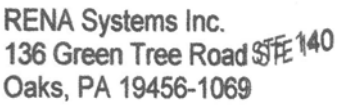
CONDITION	PROBLEM	SOLUTION
Information being printed is wrong, incomplete, or garbage	Poor cable connections	Check parallel cable is securely fastened at both ends Cable does not exceed 6’ in length
	Interface problem	Check to be sure Printers internal parallel or USB cable is in good condition
	Corrupted database file	Check printer setup at computer Use another database file
Barcode does not print	Wrong font selected	If using a combined field barcode choose USPS barcode font
	No zip code in database	Put zip code field in database or use another database
	Barcode not enabled	Enable barcode
Unwanted **BOLD**, *Italic*, or Underlined type	Turned on in layout	Open layout and change type style
Not all addresses in database print	Only some of the addresses in database have been selected to print	Start new job and select entire database
Data is being lost	Database problem Parallel cable connection loose	Check the database program Reconnect
Graphics or text have a white line through them	The graphic or text is set between the junction of two printheads	Move the copy or adjusts the printhead

Software Problems

Refer to the manual for the application software being used.

Print Quality Problems

CONDITION	PROBLEM	SOLUTION
Black streaks in text ~~This is a sample of text showing black streaks in the copy.~~	Lint or paper dust on printhead.	Clean the cartridge nozzles with a clean lint-free cloth moistened with distilled water.
Cartridge will not print	Sheet is blank even after it has gone underneath cartridge(s).	Check to make sure the tape is off the printhead. Remove and reinsert the cartridge into the carriage holder. Install a new print cartridge.
White streaks in text or graphics RENA Systems Inc. 136 Green Tree Road STE 140 Oaks, PA 19456-1069	Lint or dust blocking printhead holes. Poor contact between printhead and printhead holder.	Clean the cartridge nozzles with a clean lint-free cloth moistened with distilled water. Clean interconnects. Remove and reinsert the cartridge into the holder. Insert a new Print Cartridge.
Extra lines; losing data	Database problem	Check data in database program
Improper output (address information out of order, miss-feeding, etc.)	Wrong interface settings Static electricity Dirty media sensor	Check software or data base on PC. Close the software program, the turn Printer of and on. Clean media sensor.
Media jams	Double feeding Media is curled or bent Media is too thin	Adjust Sheet Separators on feeder. Uncurl media. Media must be at least 0.008”.
No communication	Improper cabling / connector Unit not receiving power	Use Proper cable (see Operator Manual). Check plug connections, on/off switch and fuse on back panel (see Operator Manual).
Not printing on media	Media not positioned properly	Adjust printhead vertically. Adjust margin setting in layout software.
Print too light or missing character dots	Clogged or dirty printheads Running out of ink	Purge or clean cartridges. Replace inkjet cartridges.

CONDITION	PROBLEM	SOLUTION
Blurry address 	Image is not sharp	Printhead gap too high. Adjust printhead closer to the media.
Split line of type 	Line of type is placed across two printheads	Reposition the text in the layout so that it does not print across two printheads. Adjust the positioning of the two printheads in relationship to each other using the Head Alignment tool in the Properties window of the PCL version driver.
Ghosting and or skewed line of type. 	Media is slipping, hesitating or skewing as it is transported. All or part of image is printed with a ghost image (ghosting) or is skewing. Example shows part of the image (**STE 140**) ghosting and skewing.	Check the side guide adjustment. If guides are set too tight they can hold back on media. Check that the printhead carriage is set at the proper height. A printhead carriage that is set too high or too low may cause media to jam, hesitate, slip, or skew.

WARNING

THERE ARE HIGH VOLTAGES PRESENT BEHIND THE COVERS OF THE XPS-ProMail SYSTEM!

Notes

SECTION 4 - Adjustments

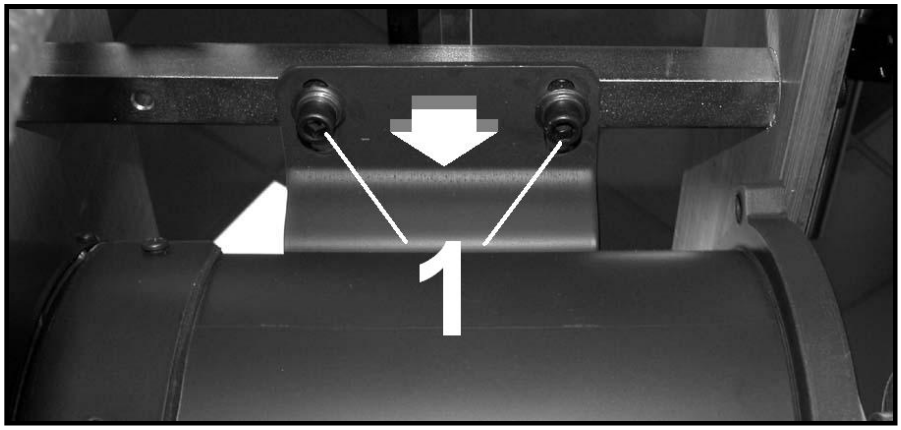
XPS-PROFEED Shuttle Feeder

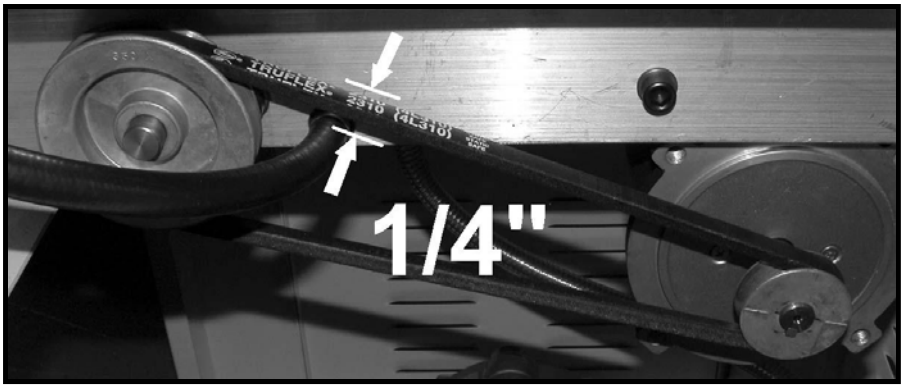
XPS-PROFEED Drive Belt Adjustment

REQUIREMENT: To adjust the main drive belt for proper tension.

ADJUSTMENT:

1. Remove the upper and lower rear covers from the Feeder.
2. Loosen the four Allen screws [1] that attach the motor to the frame of the machine.
3. Push the motor assembly in the direction of the arrow as show.
4. Tighten the four Allen screws.
5. Check that there is approximately ¼" play in the belt.



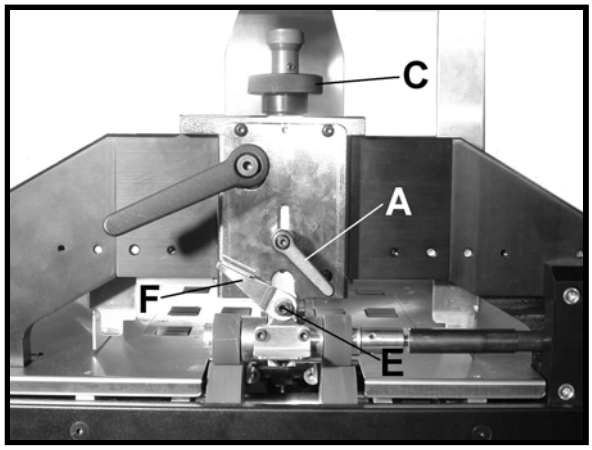


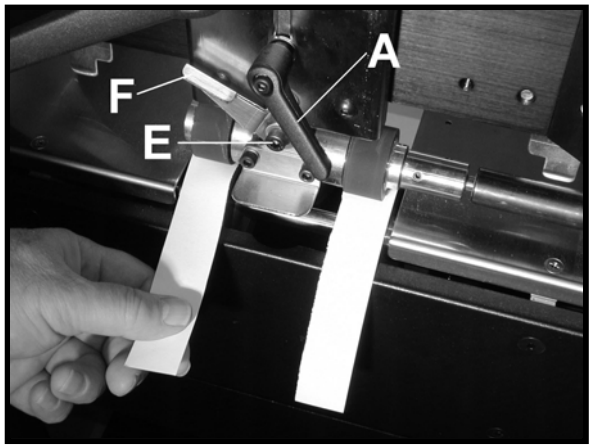
XPS-PROFEED Top Feed Roller Parallel Adjustment

REQUIREMENT: The top feed rollers must be parallel to the lower feed rollers...

ADJUSTMENT:

1. Rotate the rollers until the lower forwarding roller is in it upper most position. Unlock the upper forwarding roller by releasing the locking lever [A].
2. Place 2 strips of 20 lb. paper under the upper forwarding rollers. Then lower the rollers using the Media Thickness knob [C] until one of the strips has a slight drag in it.
3. Loosen the Hex Screw [E] and lever [F] until the drag on both sides is even.
4. Then tighten the Hex Screw [E].
5. Lock the locking lever [A] and test again.



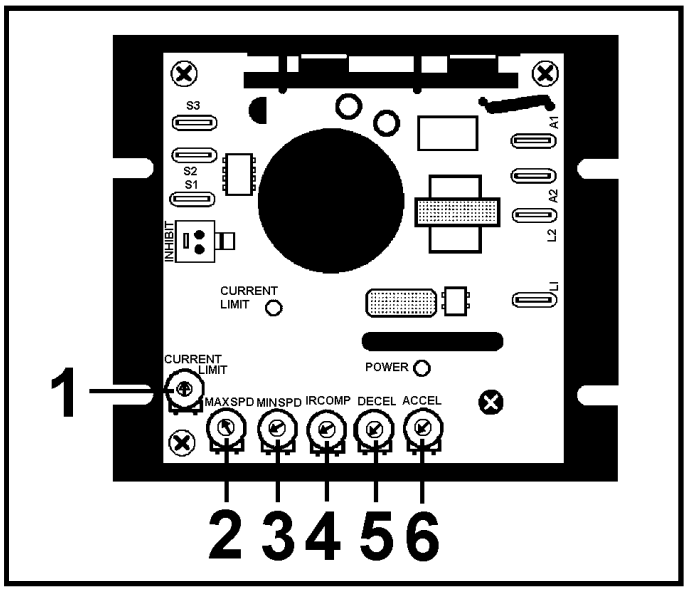


XPS-ProFeed Speed Control Adjustment

REQUIREMENT: To adjust the maximum speed of the feeder.

ADJUSTMENT:

1. Turn off the feeder, open the control panel cover.
2. Adjust the following potentiometers on the Speed Control PC Board as follows:
   a. CURRENT LIMIT [1] center of adjustment.
   b. IR COMP [4] slightly clockwise from fully off.
   c. DECEL [5] and ACCEL [6] adjust to minimum setting counterclockwise.
3. Connect a DC volt meter between terminals A1 and A2.
4. Plug the feeder into the power outlet, release the Emergency Stop button and press the Power button.
   NOTE: The feeder must have the stop switch jumper in place or be connected to the system for it to operate.
5. Turn the feeder Power switch ON.
6. Adjust the Speed Control knob on the feeder control panel to the lowest speed setting (all the way counterclockwise). Then adjust the MIN SPD [3] to get 1 V DC. Make sure that the rollers are not turning.
7. Adjust the Speed Control knob on the feeder control panel to the highest speed setting (clockwise). Then Adjust the MAX SPD pot [2] to get 100 V DC.
8. Turn the feeder OFF, disconnect the meter and replace the control panel cover...



XPS-ProMail Base

Base Drive Motor Belt Adjustment

REQUIREMENT: To adjust the proper tension on the main drive belt and encoder drive.

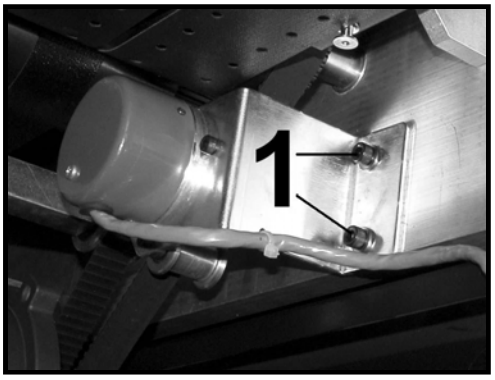
ADJUSTMENT:

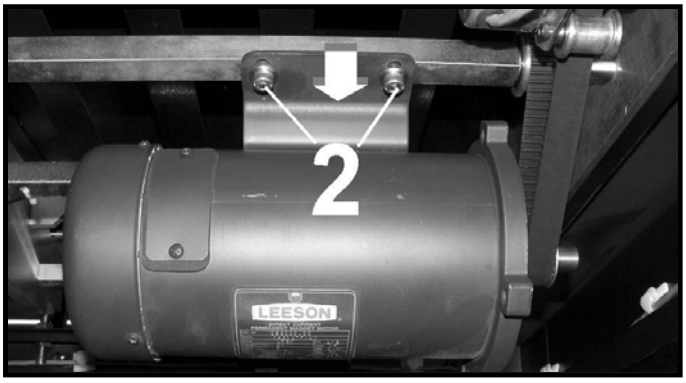
1. Disconnect the System from its power source.
2. Remove the lower front cover from the Transporter Base Unit.
3. Loosen the two Allen bolts [1] that attach the Encoder assembly to the frame of the Base.
4. Loosen the four Allen bolts [2] that attach the Main Drive Motor its supports and push the motor in the direction of the arrow. Hold the motor in position and tighten the four Allen bolts [2].

NOTE: The drive belt has to be tight with little flex when the adjustment is complete.

5. Without pushing the encoder against the belt in either direction, tighten the two Allen bolts [1].

NOTE: It is very important that the encoder drive and two idler pulleys are parallel to the belt and that they do not exert any pressure on the belt in either direction for proper operation.





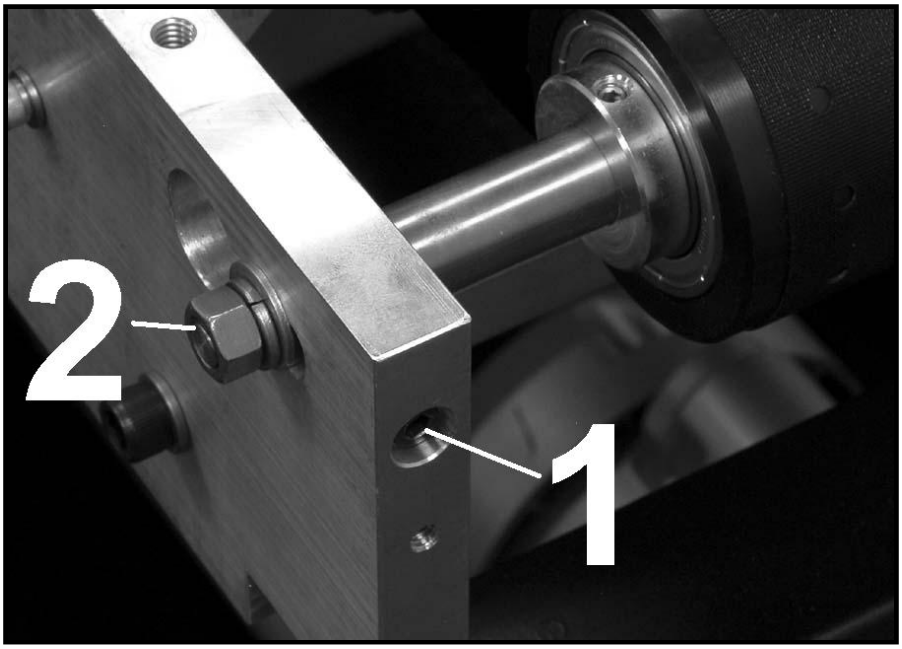
Base Input Belt Adjustment

Requirement: The Input Transport Belts on the Base Unit must track properly.

NOTE: This adjustment should only be performed when changing the belts, and should be accomplished before the machine is reassembled.

Adjustment:

1. The non driven roller has two Allen adjusting screws [1] (one on each side) that are screw into the roller shafts. Loosen the two locking nuts [2] and adjust the screws [1] so that the belts can be raised approximately ½" from the table at their centers.
2. Tighten the lock nuts [2] and run the base unit at low speed to check the tracking of the belts in the belt guides.
3. If the tracking is off (the belts climb in the guides) loosen the locking nuts [2] and readjust the side opposite of the problem.
4. Retighten the nuts and retest.



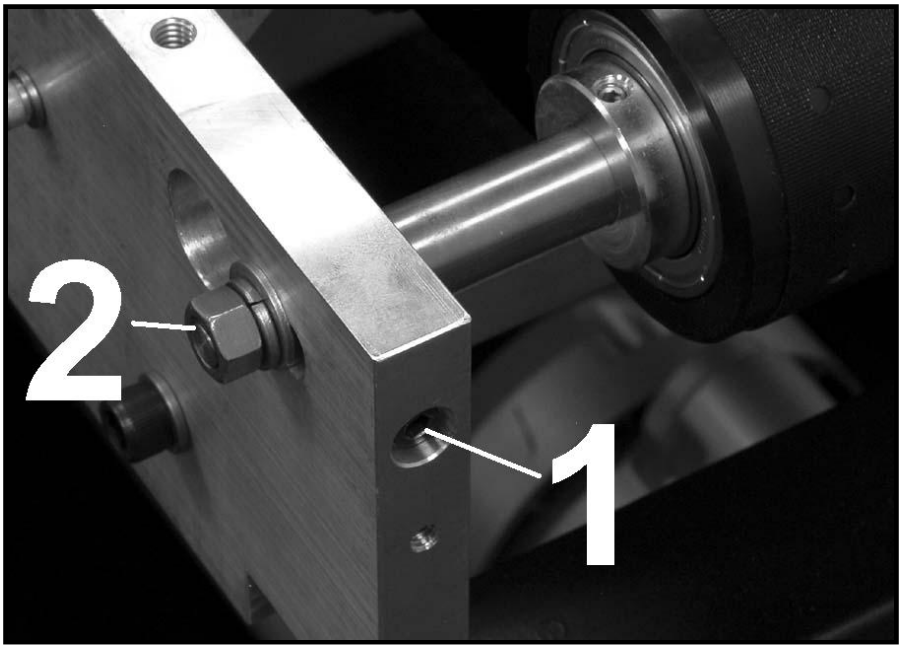
Base Vacuum Belt Adjustment

Requirement: The Vacuum Transport Belts on the Base Unit must track properly.

NOTE: This adjustment should only be performed when changing the belts, and should be accomplished before the machine is reassembled.

Adjustment:

1. The non driven roller has two Allen adjusting screws [1] (one on each side) that are screw into the roller shafts. Loosen the two locking nuts [2] and adjust the screws [1] so that the belts can be raised approximately ½" from the table at their centers.
2. Tighten the lock nuts [2] and run the base unit at low speed to check the tracking of the belts in the belt guides.
3. If the tracking is off (the belts track to the left or right) loosen the locking nuts [2] and readjust the side opposite of the problem.
4. Retighten the nuts and retest.
5. Run the base up to its highest speed to confirm the belts are tracking properly.

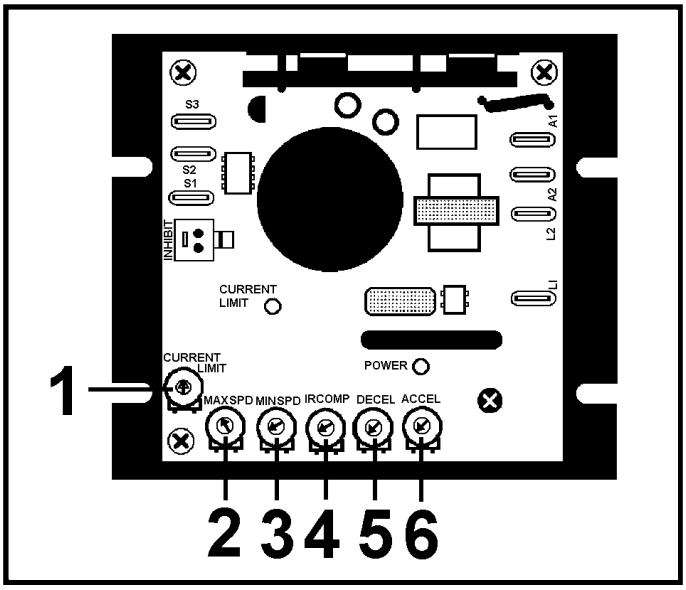


Base Unit Speed Control Adjustment

REQUIREMENT: To adjust the maximum speed of the base unit.

ADJUSTMENT:

1. Put the Transporter Auto/Manual switch in the Manual position.
2. Open the front panel.
3. Adjust the following potentiometers on the Speed Control PC Board as follows:
   a. CURRENT LIMIT [1] center of adjustment.
   b. IR COMP [4] slightly clockwise from fully off.
   c. DECEL [5] and ACCEL [6] adjust to minimum setting counterclockwise.
4. Connect a DC volt meter between terminals A1 and A2.
5. Release the Emergence Stop switch and press the power to turn the system on.
6. Adjust the Transporter Speed Control knob to the lowest speed setting (all the way counterclockwise). Then adjust the MIN SPD [3] to get 1 V DC. (Make sure that the belts are not moving after completing this adjustment.)
7. Adjust the Speed Control knob on the feeder control panel to the highest speed setting (clockwise). Then Adjust the MAX SPD pot [2] to get 100 V DC.
8. Disconnect the meter and replace the control panel.



Dryer Base

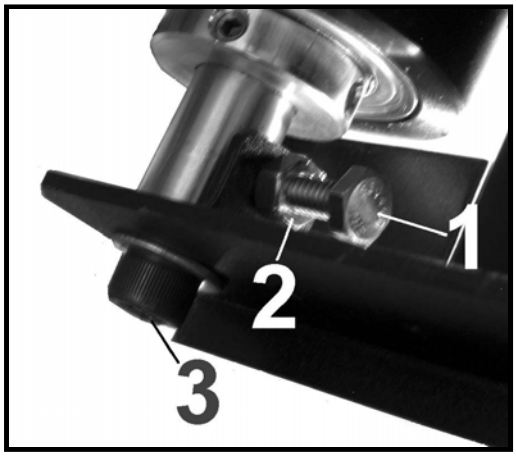
Dryer Base Transport Belt Adjustment

Requirement: The Dryer Base Transport Belts must track properly.

NOTE: This adjustment should only be performed when changing the belts, and is more easily accomplished before the transport assembly is installed back in the base.

Adjustment:

1. The non driven roller has two adjusting bolts [1] with lock nuts [2] (one on each side) that are screw against the roller shafts.
2. Loosen the two Allen screws [3] that lock the roller shafts in place on the frame.
3. Adjust the two adjusting screws [1] so that they hold the roller at the same distance from the adjusting screw mounting bracket. Tighten the lock nuts [2].
4. Turn the unit over and install it in the dryer base. Check that the belts have at least 1-1/2" to 2" of stretch at their centers on the table.
5. Connect the electrical wires and run the dryer base to check that the belts track properly.
6. If the tracking is off (the belts track to the left or right) loosen the locking nuts [2] and readjust the side opposite of the direction of the track.
7. Retighten the nuts and retest.
8. Run the dryer base up to its highest speed to confirm the belts are tracking properly.

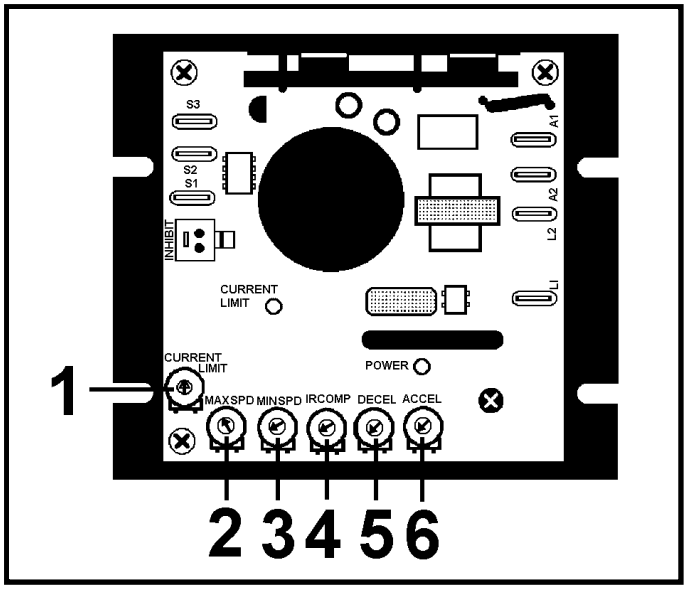


Dryer Base Speed Control Adjustment

REQUIREMENT: To adjust the maximum speed of the Dryer unit.

ADJUSTMENT:

1. Put the Dryer Auto/Manual switch in the Manual position.
2. Open the front panel.
3. Adjust the following potentiometers on the Speed Control PC Board as follows:
   a. CURRENT LIMIT [1] center of adjustment.
   b. IR COMP [4] slightly clockwise from fully off.
   c. DECEL [5] and ACCEL [6] adjust to minimum setting counterclockwise.
4. Connect a DC volt meter between terminals A1 and A2.
5. Release the Emergence Stop switch and press the power button to turn the system on. Then turn the Dryer Power switch ON.
6. Adjust the Dryer Speed Control knob to the lowest speed setting (all the way counterclockwise). Then adjust the MIN SPD [3] to get 1 V DC. (Make sure that the belts are not moving after completing this adjustment.)
7. Adjust the Speed Control knob on the feeder control panel to the highest speed setting (clockwise). Then Adjust the MAX SPD pot [2] to get 100 V DC.
8. Disconnect the meter and replace the control panel.



TB-659 Conveyor

Conveyor Drive Belt Adjustment

Requirement: The Conveyor Drive Belt must have the proper tension to drive the belt roller.

Adjustment:

1. Remove the left-hand end cover from the Conveyor. (Four screws).
2. Loosen the four screws that attach the motor to the frame and slide the motor away from the drive roller to tighten the belt.

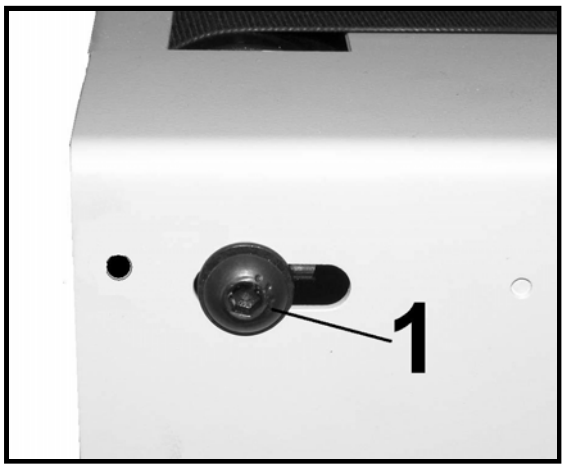
Conveyor Transport Belt Adjustment

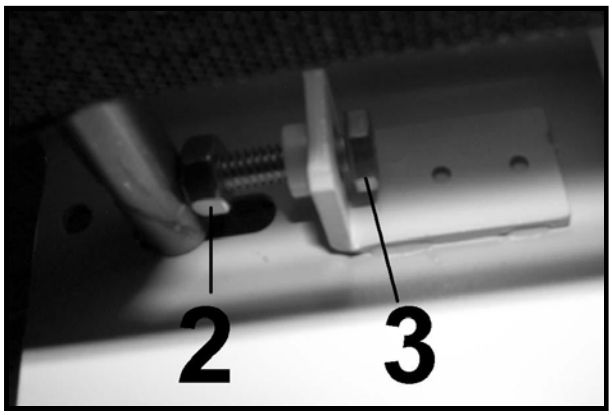
Requirement: The belts must track straight and not slip.

NOTE: This adjustment should only be performed when changing the belts, and is more easily accomplished before the Conveyor assembly's support legs are installed.

Adjustment:

3. Loosen the two Allen screws [1] that attach the Conveyor roller to the frame of the machine.
4. Loosen the locking nuts [2] and adjust the adjusting screws [3] so that they exert an even pressure on both sides of the Conveyor roller.
5. Tighten the two Allen screws [1] and then tighten the locking nuts [2].
6. Test run the Conveyor to make sure the belts track straight.



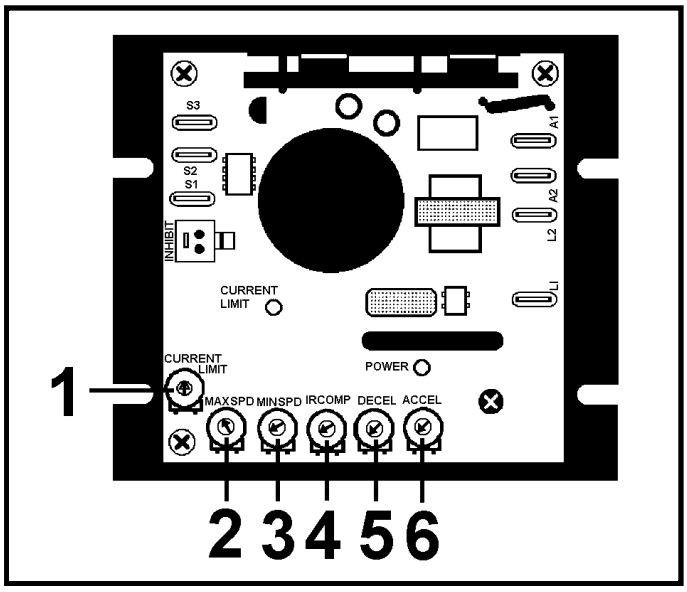


Conveyor Speed Control Adjustment

REQUIREMENT: To adjust the maximum speed of the Conveyor.

ADJUSTMENT:

1. Open the front panel of the Base unit.
2. Adjust the following potentiometers on the Speed Control PC Board as follows:
   a. CURRENT LIMIT [1] center of adjustment.
   b. IR COMP [4] slightly clockwise from fully off.
   c. DECEL [5] and ACCEL [6] adjust to minimum setting counterclockwise.
3. Connect a DC volt meter between terminals A1 and A2.
4. Release the Emergence Stop switch and press the power button to turn the system on. Then turn the Conveyor Power switch ON.
5. Adjust the Conveyor Speed Control knob to the lowest speed setting (all the way counterclockwise). Then adjust the MIN SPD [3] to get 1 V DC. (Make sure that the belts are not moving after completing this adjustment.)
6. Adjust the Speed Control knob on the feeder control panel to the highest speed setting (clockwise). Then Adjust the MAX SPD pot [2] to get 100 V DC.
7. Disconnect the meter and replace the control panel.



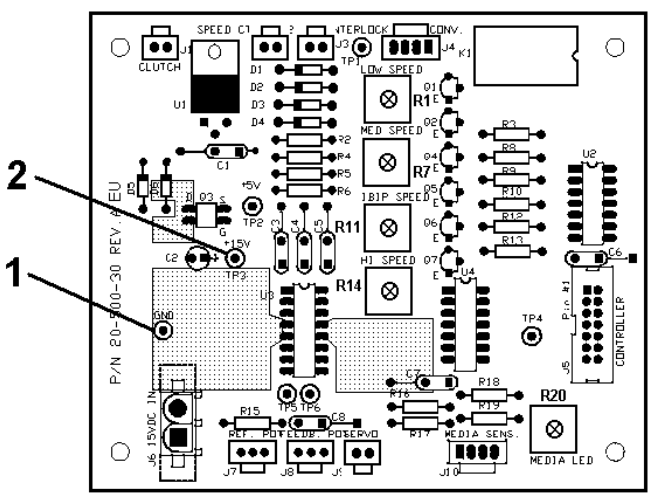
XPS-ProMail 3.0/4.0 Printer

Printer Power Supply Output Voltage Adjustment

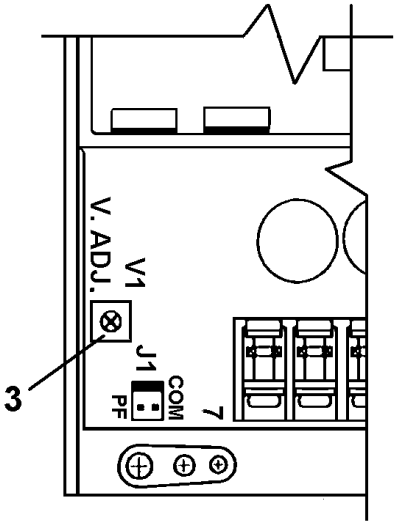
REQUIREMENT: To provide proper output from power supply to machine.

ADJUSTMENT:

1. Remove the rear cover and the right-hand front cover.
2. Connect voltmeter probe to GOD [1] and TP3 +15V [2] on the Interface PC Board. Turn the printer ON.
3. Adjust R11 (V1 ADJ) potentiometer [3] on the Power Supply module to obtain 14 VDC ± 0.1 V.
4. Turn the printer OFF, apply lacquer such as nail polish to the potentiometer, and replace the covers.



Interface PC Board



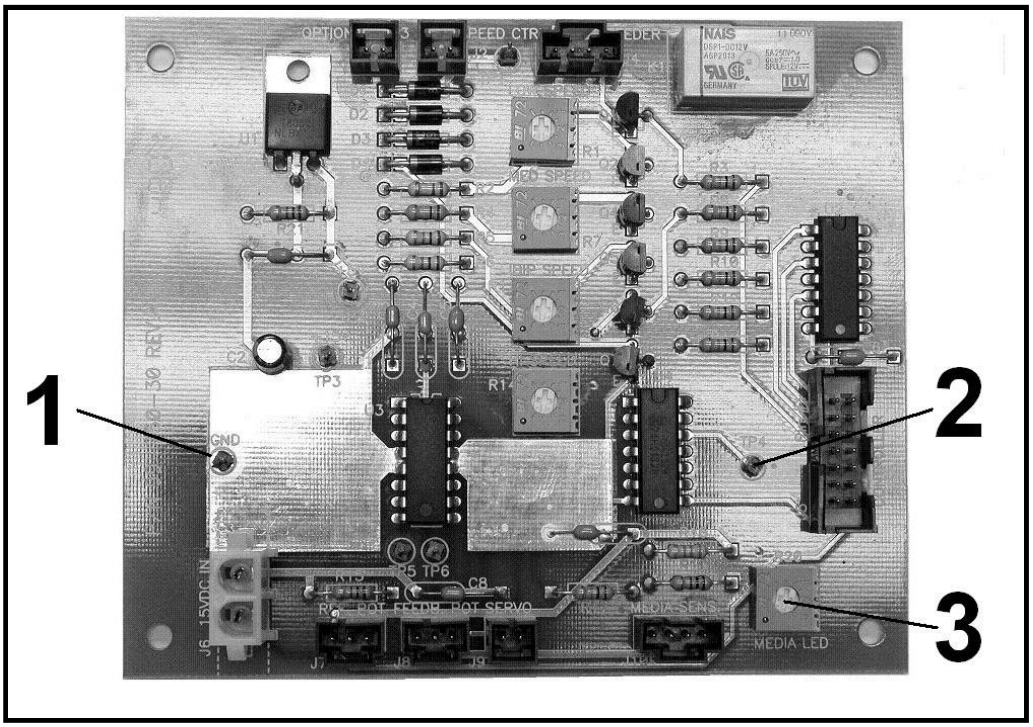
Power Supply

Printer Media Sensor Adjustment

REQUIREMENT: To assure that the media sensor senses the media.

ADJUSTMENT:

1. Remove the rear cover and connect voltmeter probe to GND [1] and TP4 [2] on the Interface PC Board.
2. Insert a BLACK media card over the sensor. Turn the printer ON.
3. Adjust R20 potentiometer [3] to read 0.5 VDC maximum.
4. Remove the BLACK media from the sensor. The voltage should read 3.5 VDC minimum.
5. Apply lacquer such as nail polish to the potentiometer to prevent movement of the adjustment.
6. Turn the printer OFF and replace the cover.



Interface PC Board

Printer Speed Adjustment

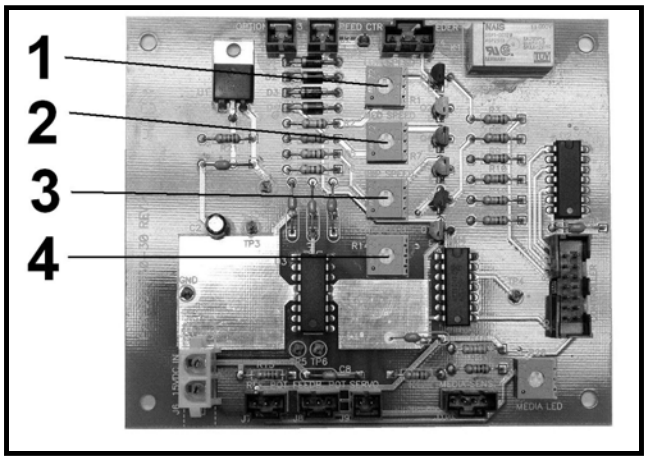
REQUIREMENT: To provide the proper speed of the printer at each of the print quality settings.

ADJUSTMENT: The Base must be in the AUTO mode for this adjustment.

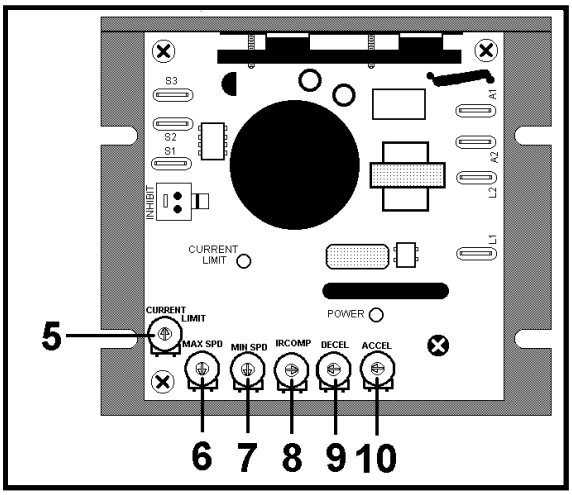
1. With the printer connected to the computer, remove the rear panel. Turn the printer ON.
2. Set the potentiometers R1 [1], R7 [2], R11 [3] and R14 [4] on the Interface PC Board, to their center or middle positions.
3. The CURRENT LIMIT [5], DECL [9], and ACCEL [10] potentiometers on the Speed Control PC Board are pre set at the factory and should not require adjustment. There is an arrowhead on the adjustment slot of the potentiometers to indicate direction.

   ⇑ ⇐ ⇐
   5 9 10

   The IRCOMP pot [8] is set at a different angle depending on the PC Board model. If the motor does not maintain set speed as the load changes, gradually adjust the IR COMP pot clockwise. If the motor oscillates, the IR COMP pot may be set too high. Turn it counterclockwise to stabilize the drive. Hook up a frequency meter to GND and SIG 1 (Encoder) test point on Main Processor PCB. Open a job and click on File, then Print. In the Properties window select Features and then select 150DPI and High speed. Click Apply, and then OK. Then click OK to start the printer.
4. Set the Hi-Speed pot. (R14) [4] on the Interface PC Board to its middle position and adjust the MAX SPD [5] potentiometer on the Speed Control PC Board until the frequency reads 40KHz.
5. Then adjust R14 [4] to obtain a frequency of 48.0 KHz (80 ips). Feed one piece of media.
6. Restart the job above, but set the speed at Medium High and adjust R11 [3] to obtain a frequency of 36.0 KHz (60 ips).
7. Repeat Step 7 again, but set the speed at Medium and adjust R7 [2] to obtain a frequency of 27.0 KHz (45 ips).
8. Repeat Step 7 again, but set the speed at Low and adjust R1 [1] to obtain a frequency of 13.2 KHz (22 ips). Then exit the CONTROL PANEL software and turn OFF the printer.
9. Apply lacquer such as nail polish to the nine potentiometers to prevent movement of the adjustments and replace the covers.



Interface PC Board



Speed Control

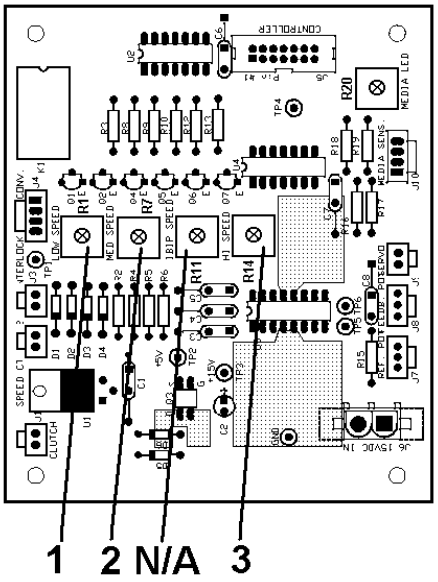
Printer/Base Auto Speed Adjustment

REQUIREMENT: To provide the proper speed of the printer at each of the print quality settings.

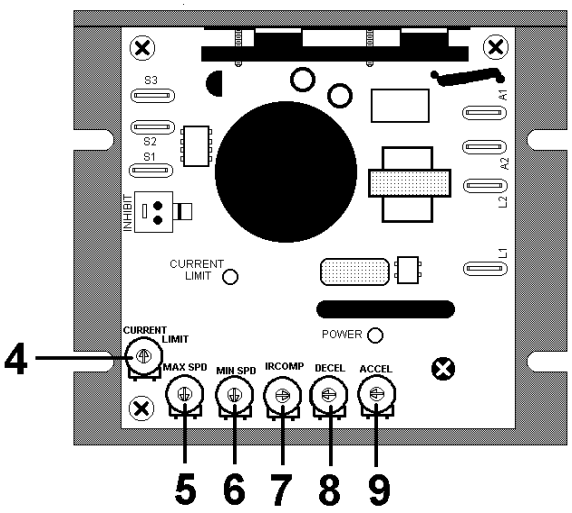
ADJUSTMENT: The Base must be in the AUTO mode for this adjustment.

1. With the printer connected to the computer, remove its rear panel. Turn the printer **ON**.
2. Set the potentiometers R1 [1], R7 [2], and R14 [3] on the Interface PC Board to their center or middle positions.
3. The CURRENT LIMIT [4], DECL [8], and ACCEL [9] potentiometers on the Speed Control PC Board are pre set at the factory and should not require adjustment. There is an arrowhead on the adjustment slot of the potentiometers to indicate direction.

   ⇑ ⇐ ⇐
   4 8 9
4. The IRCOMP pot [7] is set at a different angle depending on the PC Board model. If the motor does not maintain set speed as the load changes, gradually adjust the IR COMP pot clockwise. If the motor oscillates, the IR COMP pot may be set too high. Turn it counterclockwise to stabilize the drive.
5. Download a job and start the printer in the **DRAFT** mode.
6. Then adjust R14 [3] on the Power PC Board to obtain a speed of 80 IPS. Then click on **STOP**.
7. Click on **Standard**-resolution and adjust R7 [2] to obtain a speed of 45 IPS.
8. Click on **STOP** and then click on **High**-resolution then click **GO**. Observe the speed in IPS. Adjust R1 [1] to obtain 22 IPS.
9. Click on **STOP**. Exit the CONTROL PANEL software and turn **OFF** the printer.
10. Apply lacquer such as nail polish to the nine potentiometers to prevent movement of the adjustments and replace the cover.
    NOTE: R11 is not adjusted on the Interface PC Board for the Printer when using AstroJet Professional Software.



INTERFACE PC BOARD



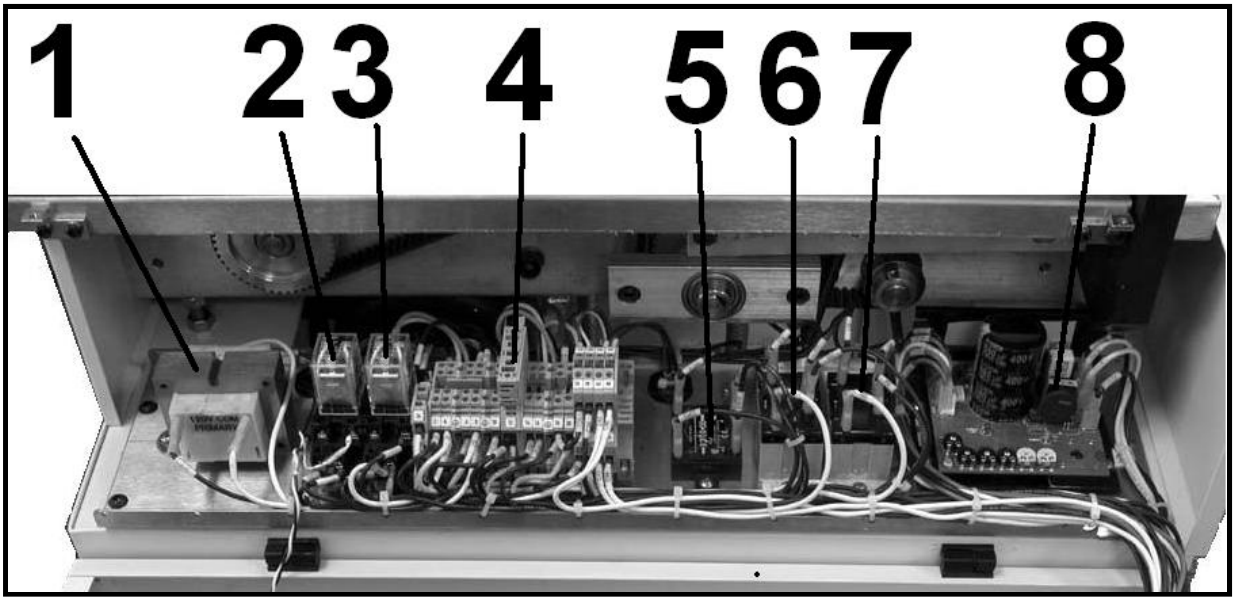
SPEED CONTROL

SECTION 5 – Disassembly

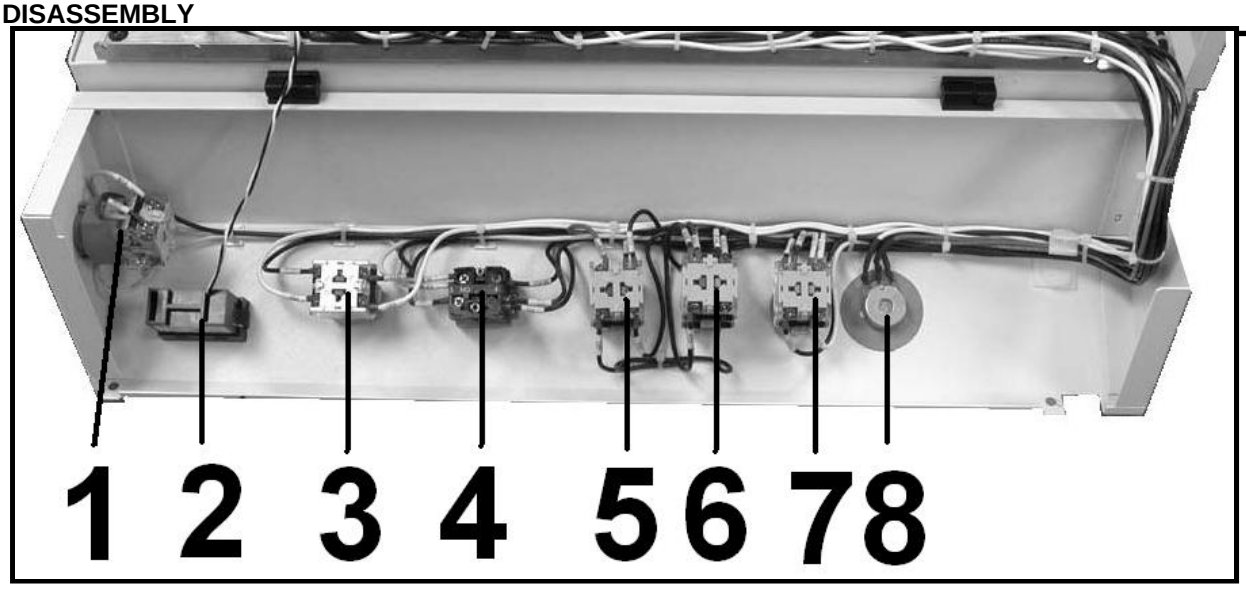
XPS-ProFeed Shuttle Feeder

Control Panel Components

Remove the two screws at the top of the control panel, pull the control panel toward you, and let it hang on its hinges.



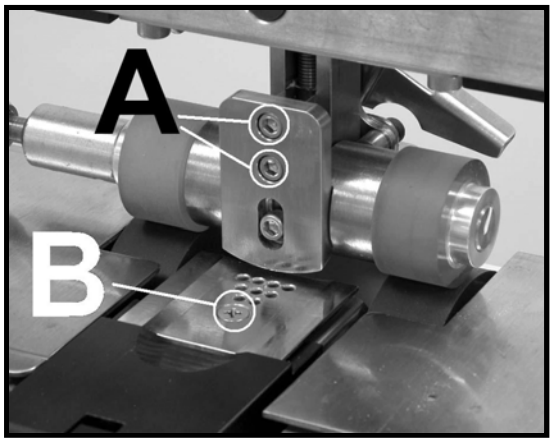
1. 24 VAC Power Transformer
2. Counter Relay
3. Safety Circuit Relay
4. Main Fuse – 7A Slow-Blow
5. Interface Feed ON/OFF Relay
6. Main Power Relay
7. Pump Power Relay
8. Motor Speed Control



1. Paper Length Selector
2. Resettable Counter
3. Emergency Stop Switch
4. Power Switch
5. Jog Switch
6. Feeder Power ON/OFF Switch
7. Feeder Vacuum ON/OFF Switch
8. Feeder Speed Control Potentiometer

Replacing Separator and Shuttle Head

1. Remove the two Allen Screws [A] to remove the Sheet Separator. Inspect the surface of the tip where the separator contacts the media it should be sharp without any dings or scratches. If it is worn or scratched it should be replaced.

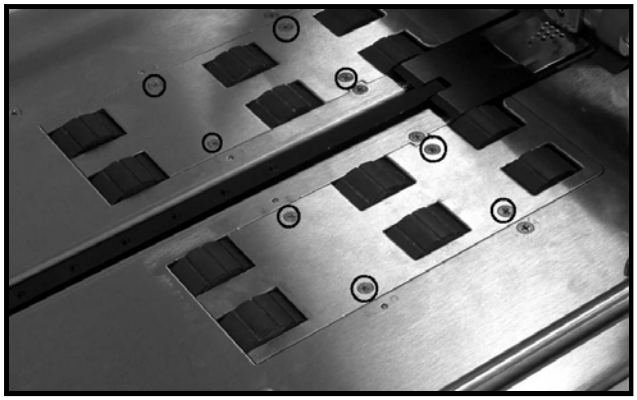


2. There are four different shuttle heads used to feed media on the Shuttle Feeder. The heads are replaced by removing the Philips head screw. Shuttle heads should be replaced if they show signs of wear or damage.

Replacing the Forwarding Feed Rollers

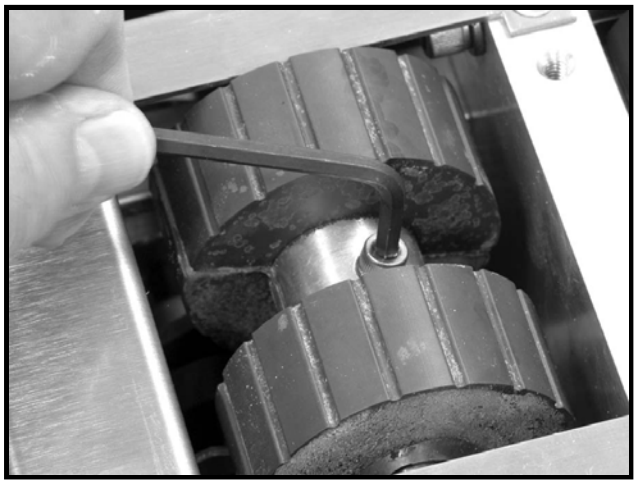
The forwarding feed rollers should be replaced when they show signs of wear.

1. Remove the eight Philips screws (four each side) from cover plate.



2. The rollers are split rollers and can be removed by removing the Allen screw that attaches each half of the rollers to the roller shaft.

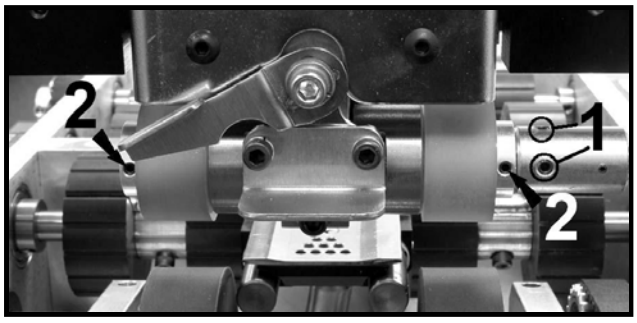
NOTE: When replacing the Allen screw use a drop of Locktite 247 Threadlocker to prevent it from loosening during operation.



3. Replace the covers and screws.

Replacing Upper Feed Rollers

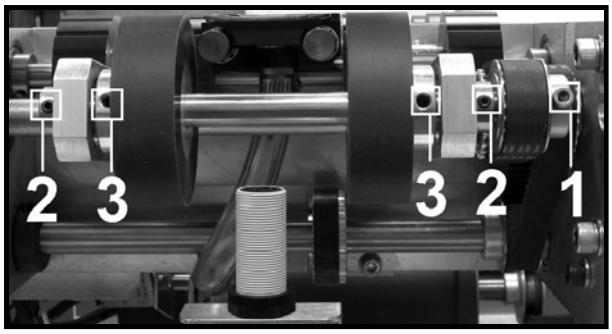
1. Remove the Shuttle Feeder from the system.
2. Remove the front cover from the Shuttle Feeder. Raise the head assembly so that the upper and lower rollers are not touching each other.
3. Disconnect the flexible drive shaft from the upper feed roller assembly by removing the two Allen screws [1] and moving the drive shaft to the right away from the upper roller assembly. Then remove the Allen screws [2] from the Upper Feed rollers and remove the rollers from the shaft.



4. Reassemble in reverse order.

Replacing the Lower Feed Rollers

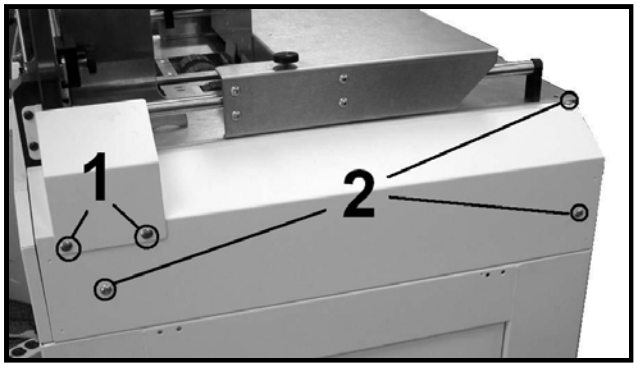
1. Remove the Shuttle Feeder from the system.
2. Remove the front cover from the Shuttle Feeder. Raise the head assembly so that the upper and lower rollers are not touching each other.
3. Remove the Allen screw [1] from the drive pulley and remove the drive pulley. The remove the Allen screws [2] from the collars and remove the collars. Next loosen the Allen screws [3] that attach the lower feed rollers to the shaft and remove the shaft and rollers.



4. Reassemble in reverse order.

Removing Rear Covers

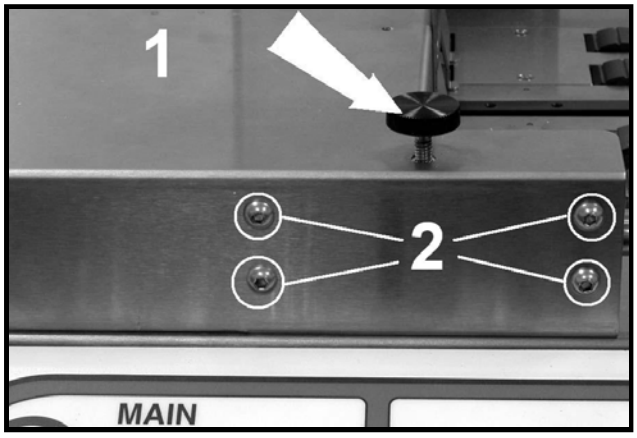
1. Remove the two screws [1] and the cover over the Flexible Drive Shaft. The remove the four screws [2] that attach the rear cover to the feeder. (One screw is found under the drive shaft cover.



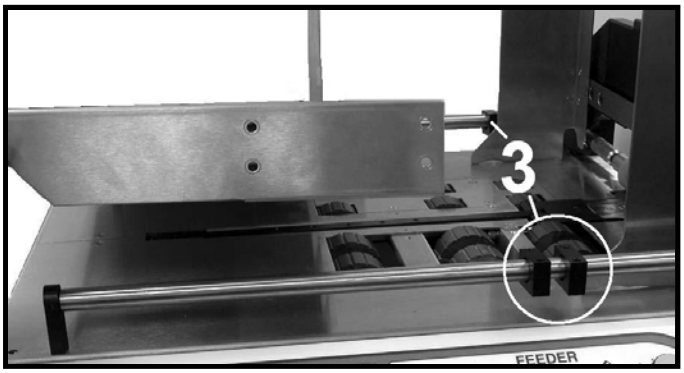
2. Reassemble in reverse order.

Removing Rear Media Guide

1. Remove the two locking knobs [1] (one from each side of the Rear Guide). The remove the eight screws [2] (four from each side).
2. Move the Rear Guide to the left and slide the four mounting blocks [3] that were attached to the rear guide with the screws [2].



3. Pull the Rear Guide toward the front of the feeder and lift it from the guide rail. Then push it to the rear of the feeder so that it clears the rear guide rail and lift it from the machine.

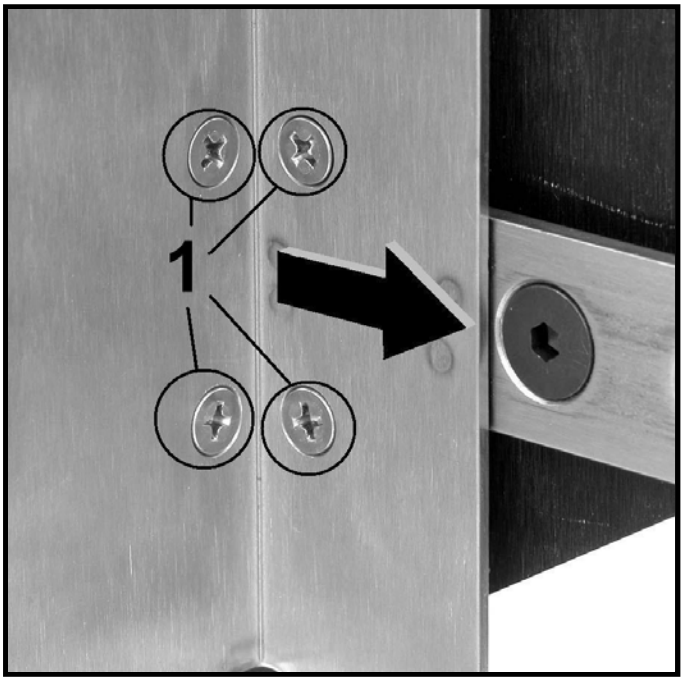


4. Reassemble in reverse order.

Removing Side Media Guides

1. Loosen the two knobs that hold the Side Media Guides in place on the machine. Then remove the four screws [1] that attach the Side Media Guides to the mount. Slide the guide toward the center of the machine and lift it off.

NOTE: There is a flat spring attached to the Side Media Guide that is under the locking knob.

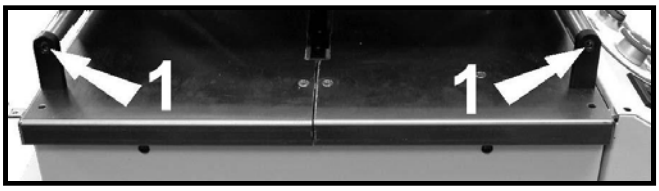


2. Reassemble in reverse order.

Removing the Top Plate

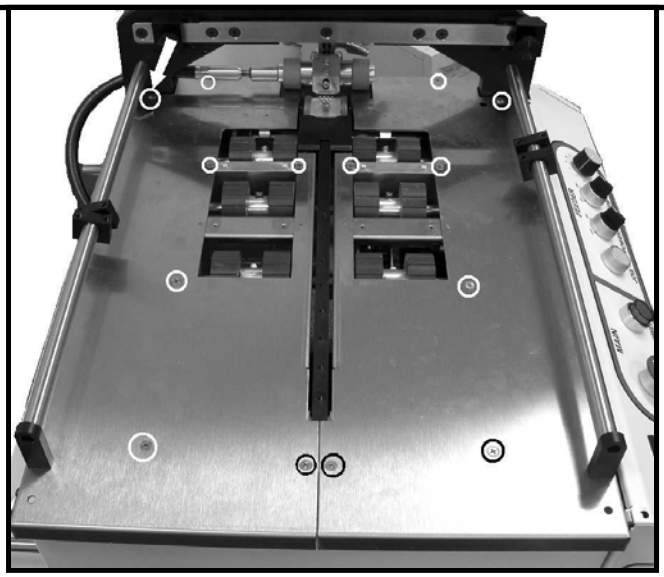
To gain access to the mechanism the top plate has to be removed. Before this can be done the parts restricting the top plate's removal have to be removed from the feeder. This includes all of the guides and covers above.

1. Remove the two Allen head screws [1] that attach the rods for the rear media guide to the top plate.

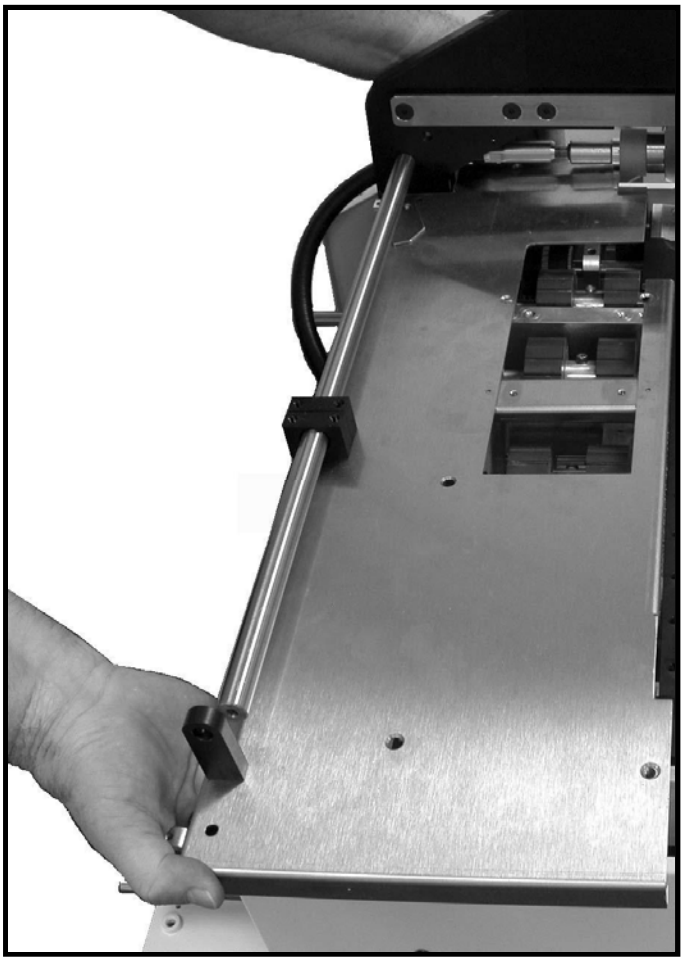


2. Remove all of the screws [circled] that attach the top to the base of the feeder.

NOTE: The screw with the arrow pointing to it also holds the stop plate for the rear guide.



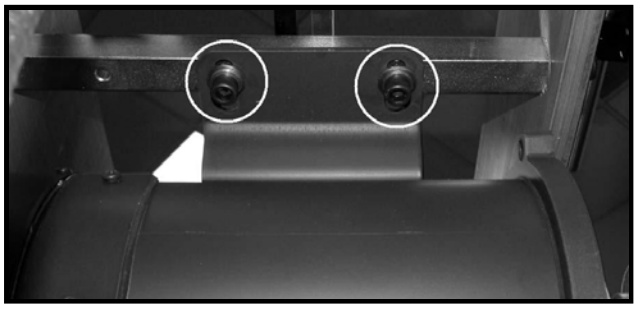
3. To remove the plate lift it from the machine and slide it to the rear.



4. Replace in reverse order. Do not forget the Rear Guide Stop.

Removing the Drive Motor

1. The drive motor is mounted the feeder mechanism frame. It is held in place with four Allen screws. Remove the covers from the machine. Disconnect the motor from the control panel and remove the four Allen screws (two shown).

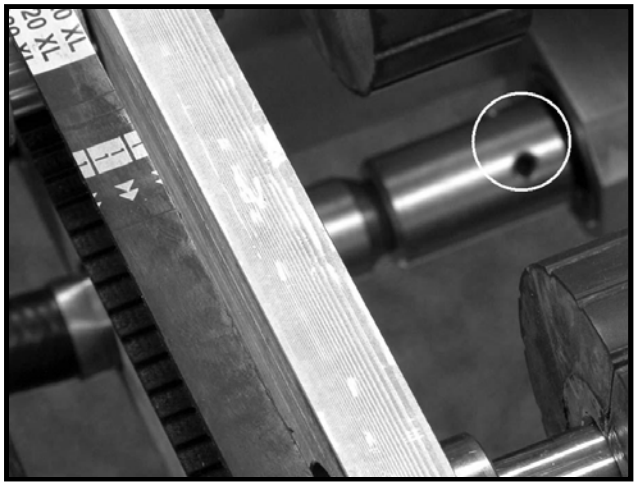


CAUTION

THE MOTOR IS VERY HEAVY! MAKE SURE YOU SUPPORT IT BEFORE REMOVING THE MOUNTING SCREWS.

Removing the Main Drive Belt

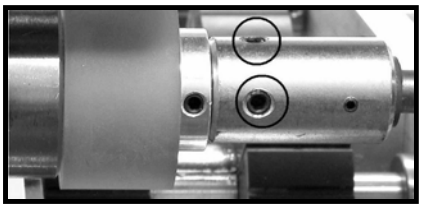
1. Remove the rear and top covers.
2. Remove the two Allen screws that attach the flexible drive shaft to the drive mechanism.



3. Loosen the four Allen screws that attach the Driver Motor to the machine and slide it toward the front of the feeder
4. Remove the belt.
5. Reassemble in reverse order.

Removing the Flexible Drive Shaft

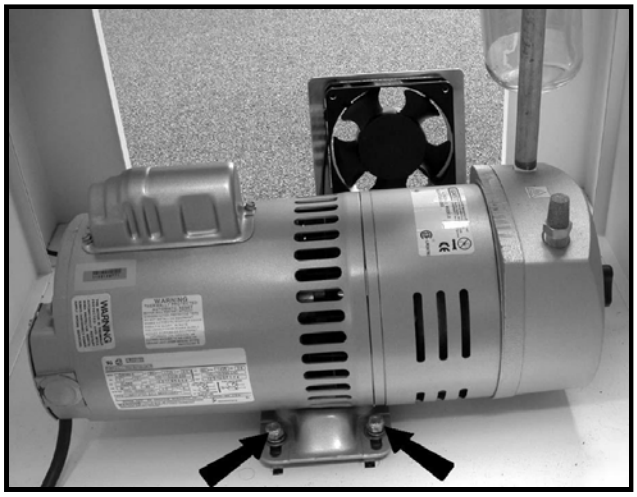
1. Remove the rear and top cover. Loosen the two Allen screws that attach the flexible drive shaft to the drive mechanism (see above step 2).
2. Remove the two Allen screws that attach the flexible drive shaft to the upper feed rollers.



3. Remove the drive shaft from the machine.
4. Reassemble in reverse order. Apply a small amount of Locktite 247 Threadlocker to the Allen screws when reassembling.

Removing the Vacuum Pump

The Vacuum Pump is attached to the base of the Feeder. Disconnect the Power Cord and the Vacuum Hose. Then remove the four Allen screws (two shown) that attach it to the base of the machine.



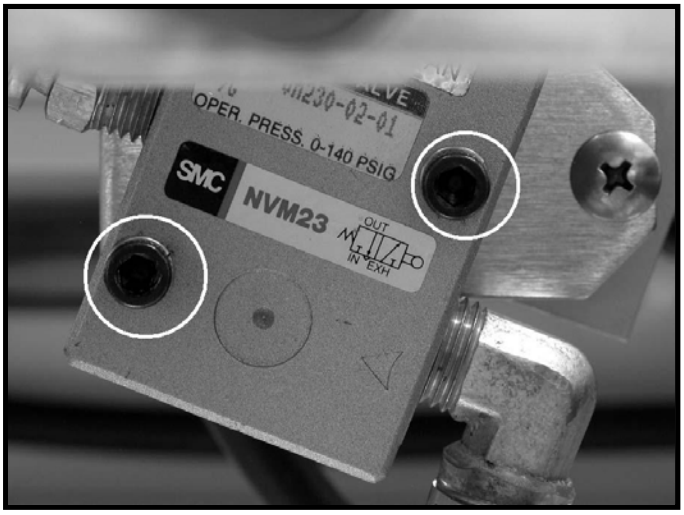
CAUTION

**THE VACUUM PUMP ASSEMBLY IS VERY HEAVY!
USE PROPER LIFTING PROCEDURES WHEN REMOVING IT FROM THE MACHINE.**

Removing the Vacuum Valve

The Vacuum Valve is located below the feeder frame. To access it you can remove the front cover of the machine and open the control panel.

1. Remove the two hose clamps and hoses attached to the valve assembly.
2. Remove the two Allen screws that attach the valve to the frame.

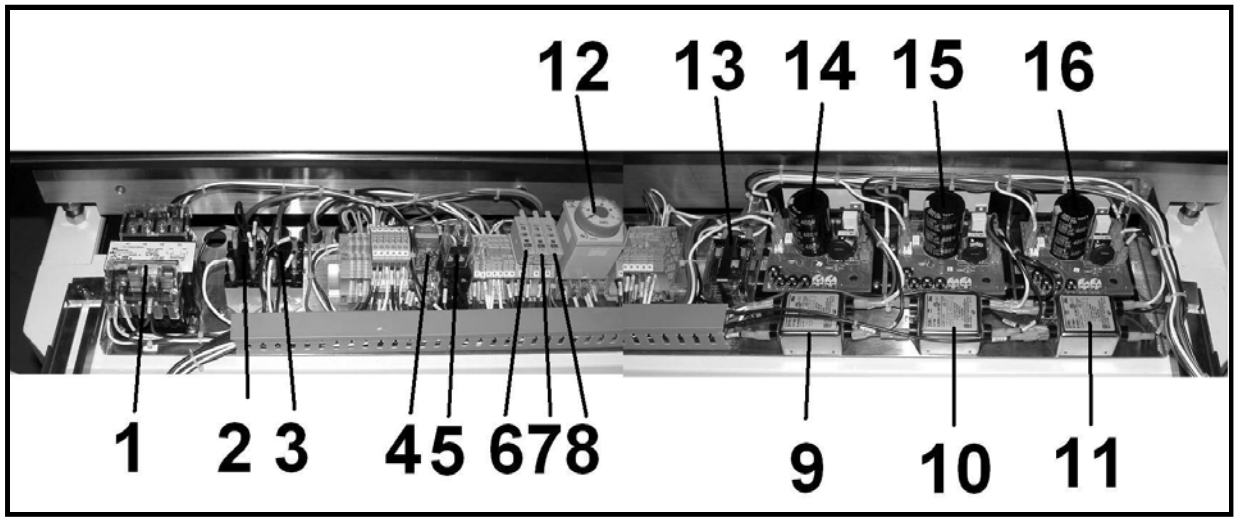


3. Reassemble in reverse order.

Base Unit

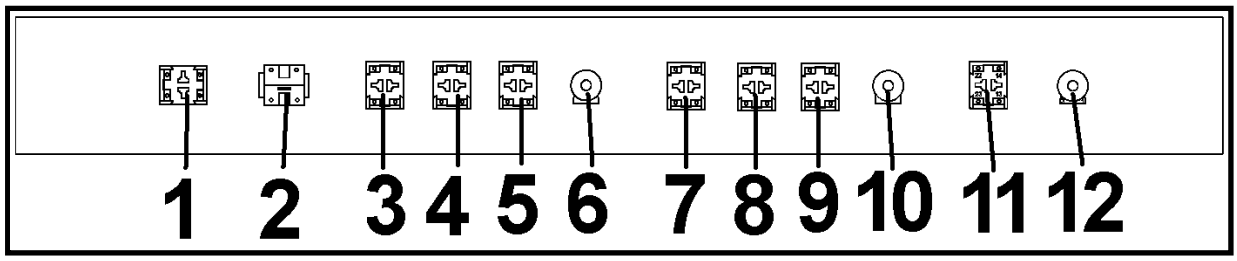
Electrical Component Location Base Chassis (top view)

Loosen the two control panel locking knobs (located under the control panel on both side of the base unit), and pull the front pane toward you. Allow it to hang open.



1. – Transformer (24VAC) Dryer and Emergency Stop Circuit.
2. – Main Power Relay (24VAC).
3. – Vacuum Pump Relay (115VAC).
4. – Emergency Stop Control Relay.
5. – Safety Circuit Control Relay.
6. – Motor and Pump Fuse (5A Slo-Blo).
7. – Dryer fuse (3A Slo-Blo)
8. – Conveyor Motor Fuse (3A Slo-Blo).
9. – Noise Filter (Main Base Speed Control)
10. – Noise Filter (Dryer Speed Control).
Noise Filter (Conveyor Speed Control).
12. – Dryer On/Off Timer.
13. – Conveyor Relay.
14. – Main Base Motor Speed Control.
15. – Dryer Motor Speed control.
16. – Conveyor Motor Speed Control.

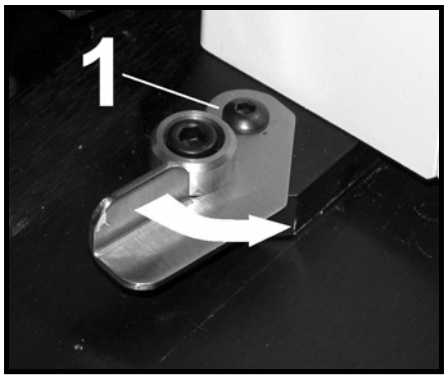
Electrical Components Base Switches (view from rear)



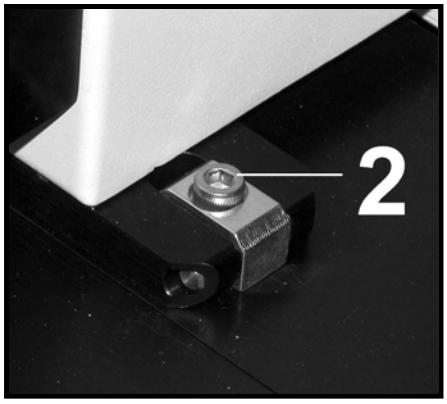
1. – Emergency Stop Switch
2. – Main Power On Switch
3. – Transport Base Auto/Manual Switch
4. – Transport Base Power On Switch
5. – Transport Base Vacuum On Switch
6. – Transport Base Manual Speed Control
7. – Dryer Auto/Manual Switch
8. – Dryer Power On Switch
9. – Dryer Blower Switch
10. – Dryer Manual Speed Control
11. – Conveyor Power On Switch
12. – Conveyor Speed Control

Replacing Transport and Motor Drive Belts

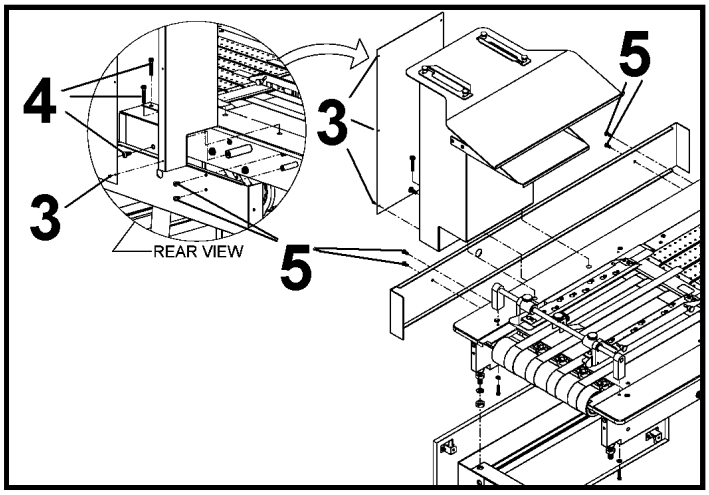
1. Unplug system from power source.
2. Remove the computer monitor, keyboard and mouse from the monitor stand.
3. Unplug and disconnect all of the wires from the printer.
4. Unlock the two Printer latches [1] on the front and rear of the printer.



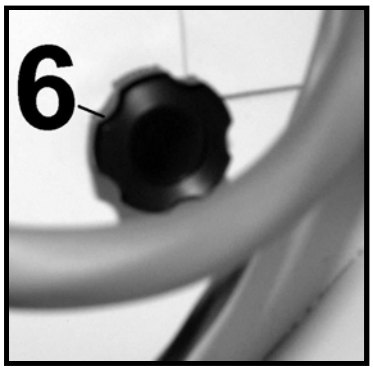
5. Remove the two Allen bolts [2] that attach the Printer to the base unit, and lift the printer from the Base and place it on a clean piece of cardboard or paper.



6. Remove the six screws [3] and the rear cover from the monitor stand, and then remove the three screws [4] that attach the monitor stand to the base and remove the monitor stand. Next remove the four screws [5] and remove the base upper rear cover.

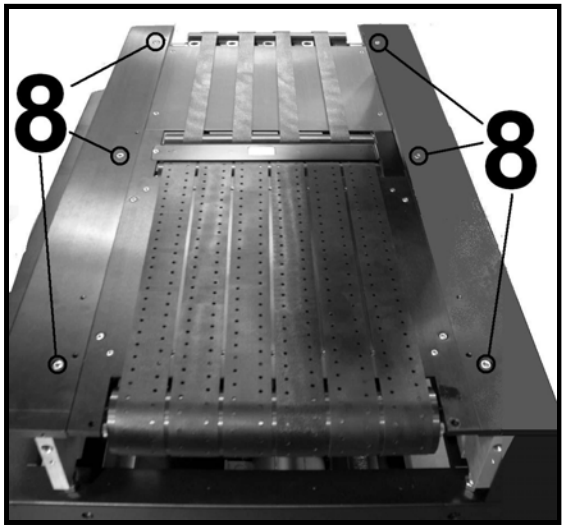


7. Loosen the two control panel locking knobs (located under the control panel on both side of the base unit), and pull the front pane toward you. Allow it to hang open.



8. Loosen the knobs that attach the media guides to the bar, and then remove the Allen cap screw [7] on the rear side of the assembly and remove the rod from the front of the assembly.

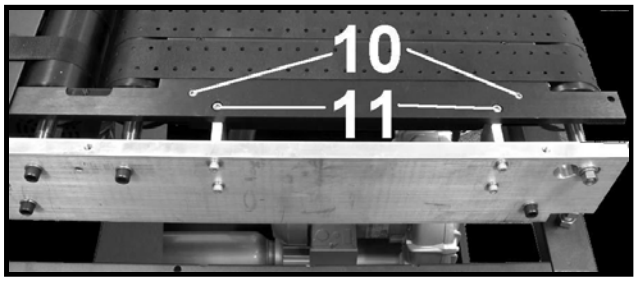
9. Remove the six Allen screws [8] that attach the two cover panel to the base and remove the panels.



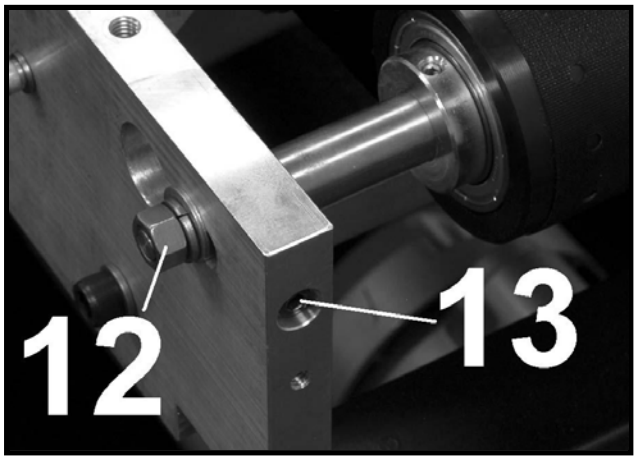
Removing Vacuum Transport Belts

10. Remove the Allen screw [9] from the center guide plate. Lift the plate from the machine. (The plate is held in place with two pins on the opposite side.)

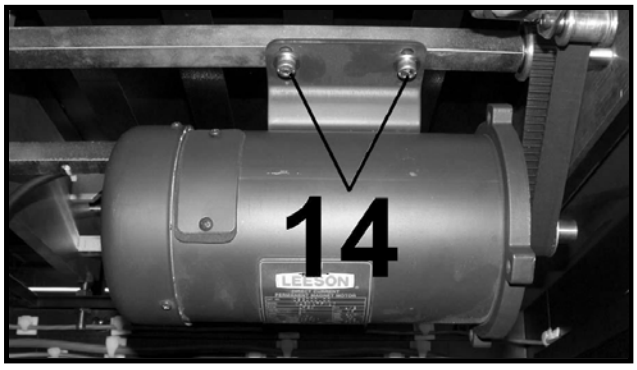
11. On the operator side of the base unit remove the two screws [10] that attach the plate to the vacuum chamber, and then remove the two screws [11] and the plate. This will give access to removing the belts once the rollers are release from their bearings.



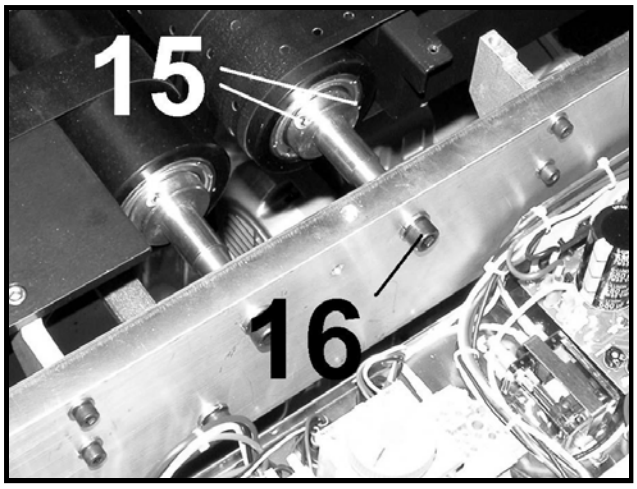
12. The two end rollers are held in place by a lock nut [12] on each end of the roller shaft and an Allen screw [13] that applies tension to the roller shaft to align the belts. Loosen the two lock nuts [12] then remove the two Allen screws [13] to remove the end rollers. The end rollers can then be moved to the large hole and slid to the rear of the machine.



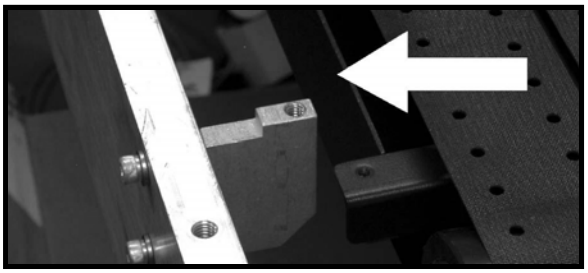
13. Loosen the four drive motor mounting screws [14] to relieve tension on the main drive belt.



14. Remove the four Allen screws [15] (two each side) that secure the vacuum transport drive roller to the shaft. Then remove the Allen screw [16] from the operator's side of the shaft and push the roller shaft toward the rear of the base.



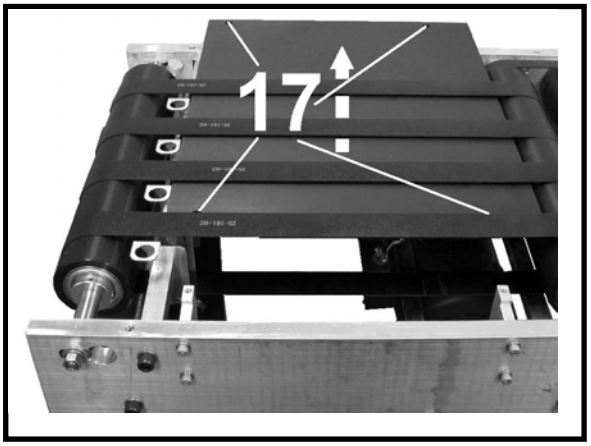
15. The vacuum transport belts can then be removed one at a time from the operator's side of the base.



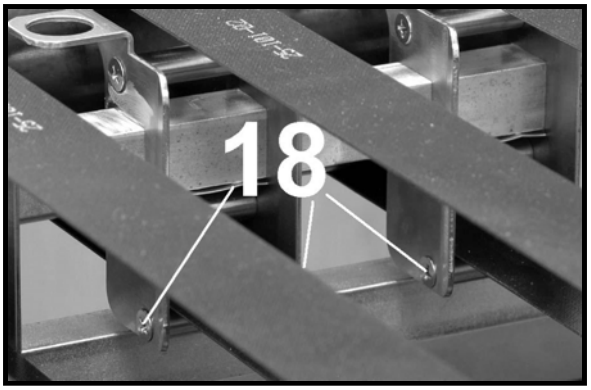
16. Reassemble in reverse order and adjust the tension on the belts.

Transport Belt Removal

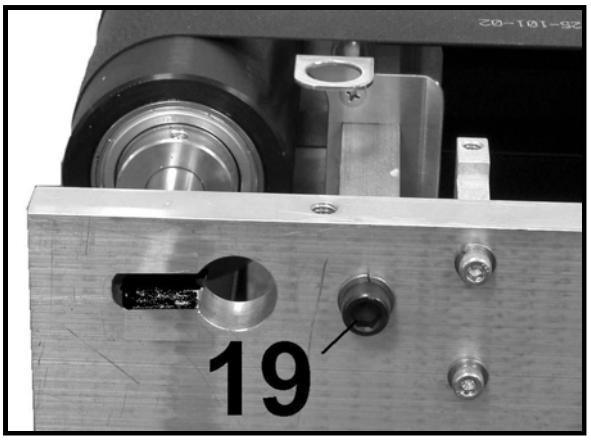
17. Follow steps 1 through 13 above. Then remove the four screws [17] that attach the transporter plate to the frame and remove the transporter plate from under the belts by sliding it toward the rear of the machine.



18. Remove the two screws [18] from each of the lower pins on each of the belt guides.



19. Remove the two Allen screws [19] (one each side) that attach the belt guide to the frame and remove the belt guide.



20. Slide the belts off the rollers from the operator's side of the base.

21. Replace the belts and reassemble in reverse order.

Removing and Replacing the Main Drive Belt.

1. Begin by performing steps 1 through 14 above, and then loosen the main motor mounting screws to release tension on the drive belt.

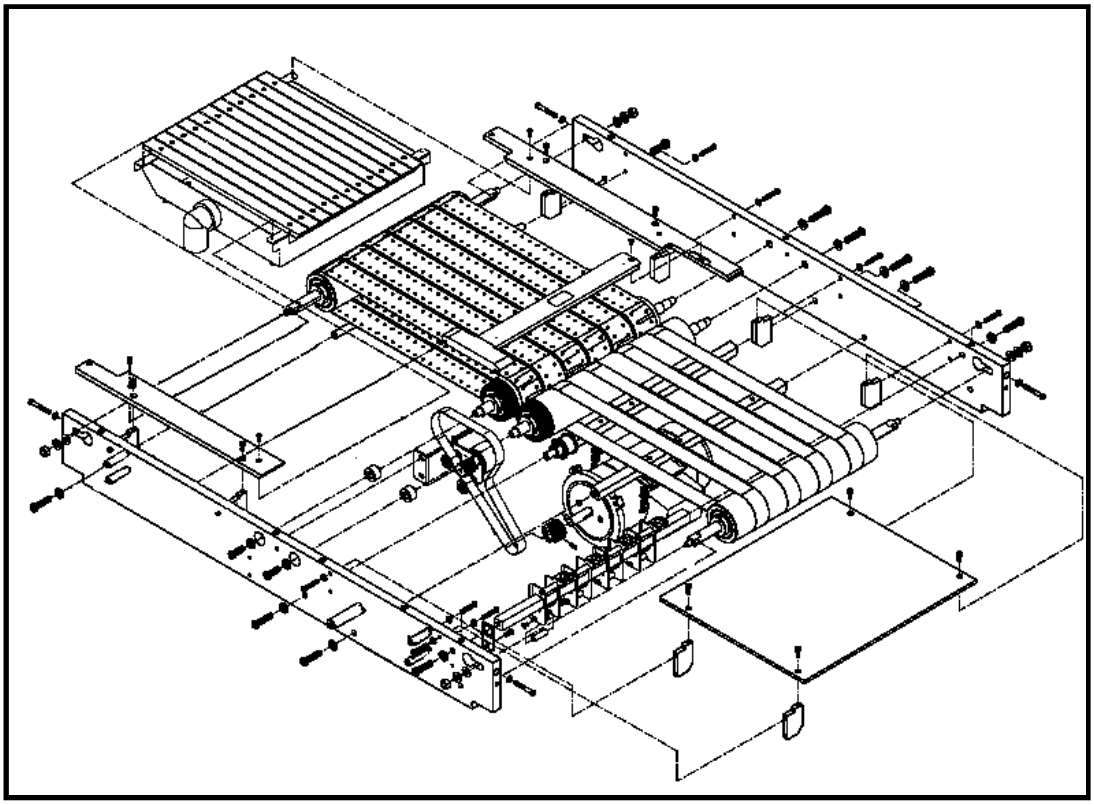
2. Remove the Encoder Assembly by unplugging the encoder and removing the two mounting screws

3. With the two center roller shafts removed the belt can be slipped off the roller gears and removed from the assembly.

4. Replace in reverse order. Adjust the encoder tension adjustment.

NOTE: The Drive Motor and the Encoder can be removed without removing the rollers and the drive belt.

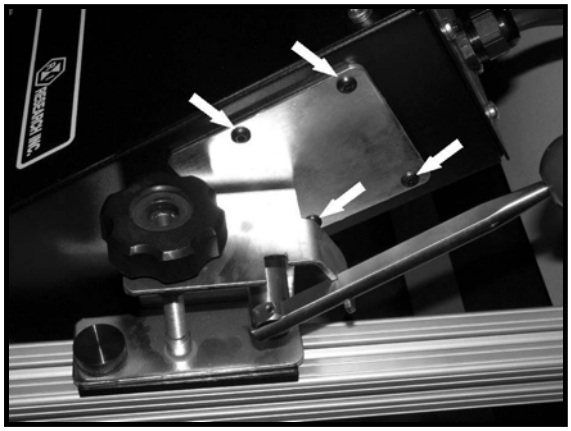
Below is an exploded drawing of the Base transport assembly:



Dryer Base

Replacing Dryer Transport Belts

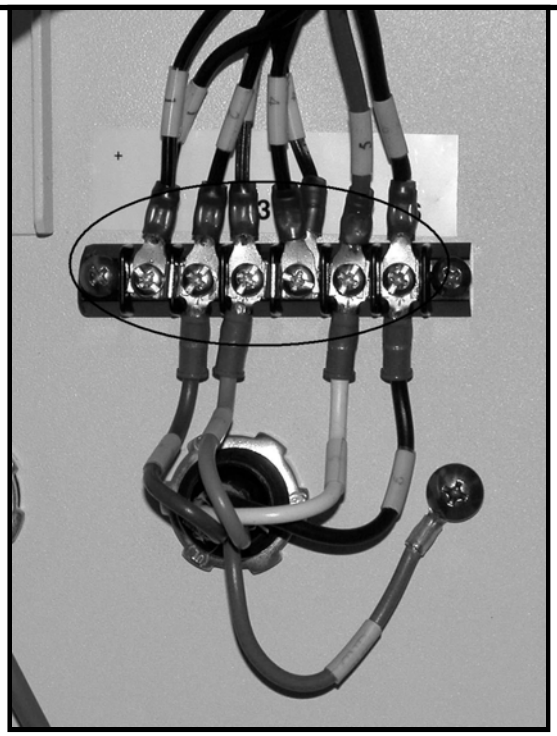
1. Unplug the Dryer from it power source.
2. Unplug the Dryer control cable from the Main Base Unit.
3. Remove the Covers from the dryer unit and the front cover from the base unit. Disconnect the two cables from the dryer base to the main base.
4. Remove the two Allen screws that attach the dryer base to the main base.
5. Remove the eight screws that attach the Dryer to the Dryer Support Console and remove the dryer.



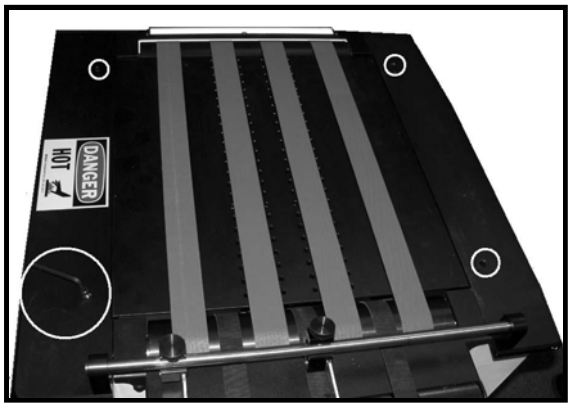
6. Remove the six screws and the rear cover from the dryer unit.

7. Remove the five screws that attach the Dryer Support Console to the Dryer Base.

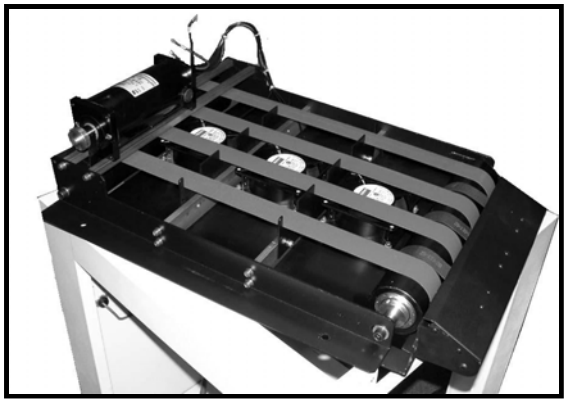
8. Disconnect the motor and fan wires from the terminal bloc.



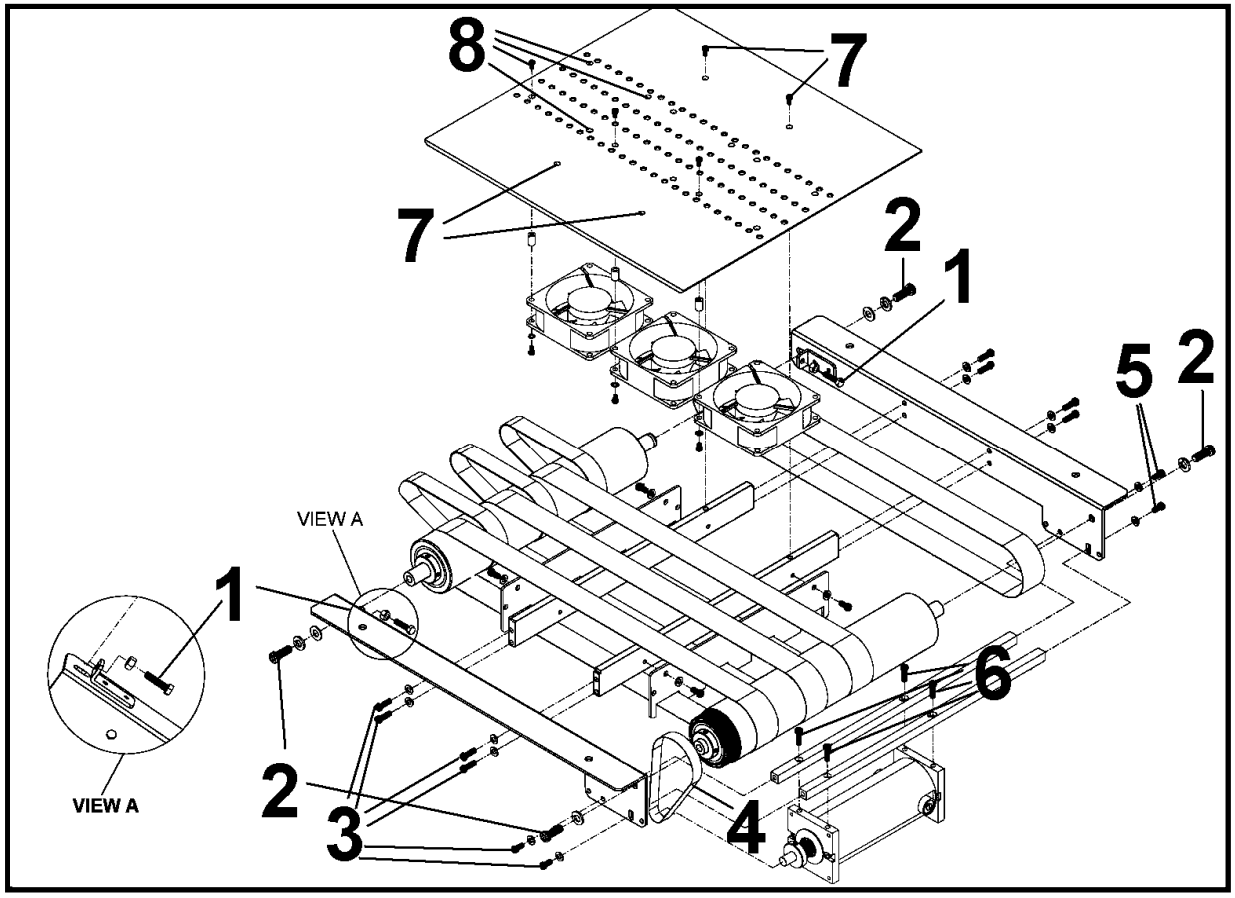
9. Remove the four Allen screws that attach the Dryer top assembly to the Dryer base.



10. Lift the Dryer top assembly, turn it over and place it back on the base unit.



The illustration below is an exploded view of the Dryer Transport assembly.



11. To replace the Transport Belts, loosen the two lock nuts and tension adjusting screws [1] (one on each side).
12. Remove the four screws [2] from the ends of the roller.
13. Remove the six screws [3] from the motor side that attach the side frame to the tie-bars and remove the frame.
14. Remove the motor drive belt [4] and then slide the belts off the rollers.

Replacing Motor

15. To remove the motor remove the two screws [5], then remove the four motor mounting screws [6]

Replacing Fans

16. To replace the fans continue the disassembly by removing the four screws [7] that attach the vacuum plate to the tie bars. The remove the fans by removing the fan mounting screws [8].
17. Reassemble in reverse order. When assembled adjust the tension adjusting screws and tighten the lock nuts.

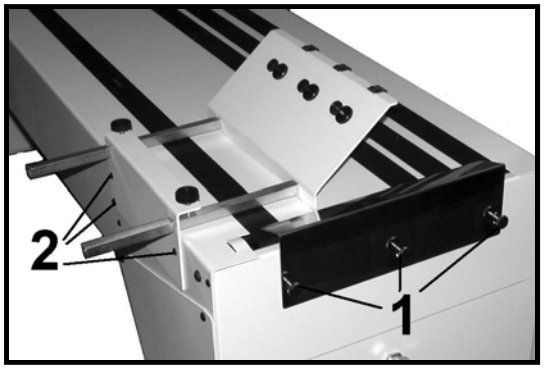
Conveyor

Replacing Conveyor Belts

CAUTION

THE CONVEYOR IS VERY HEAVY. TWO PEOPLE SHOULD BE USED TO LIFT THE UNIT FOR REPAIR OR REPLACEMENT.

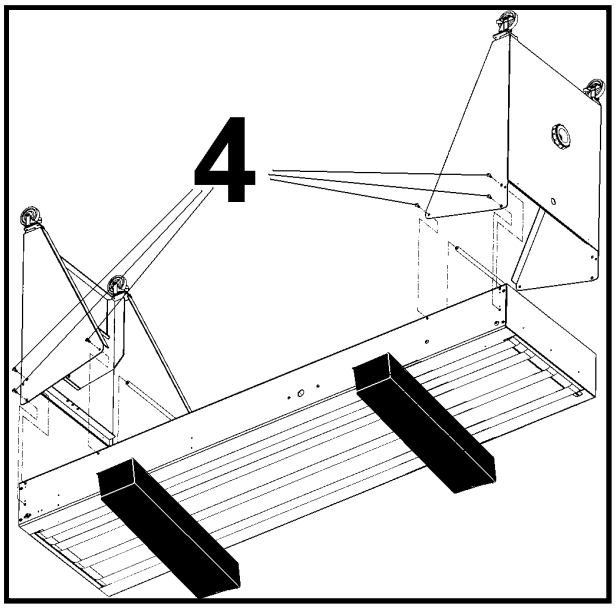
1. Remove the three knobs [1] and the end guide, then remove the three screws [2] and the right angle guide



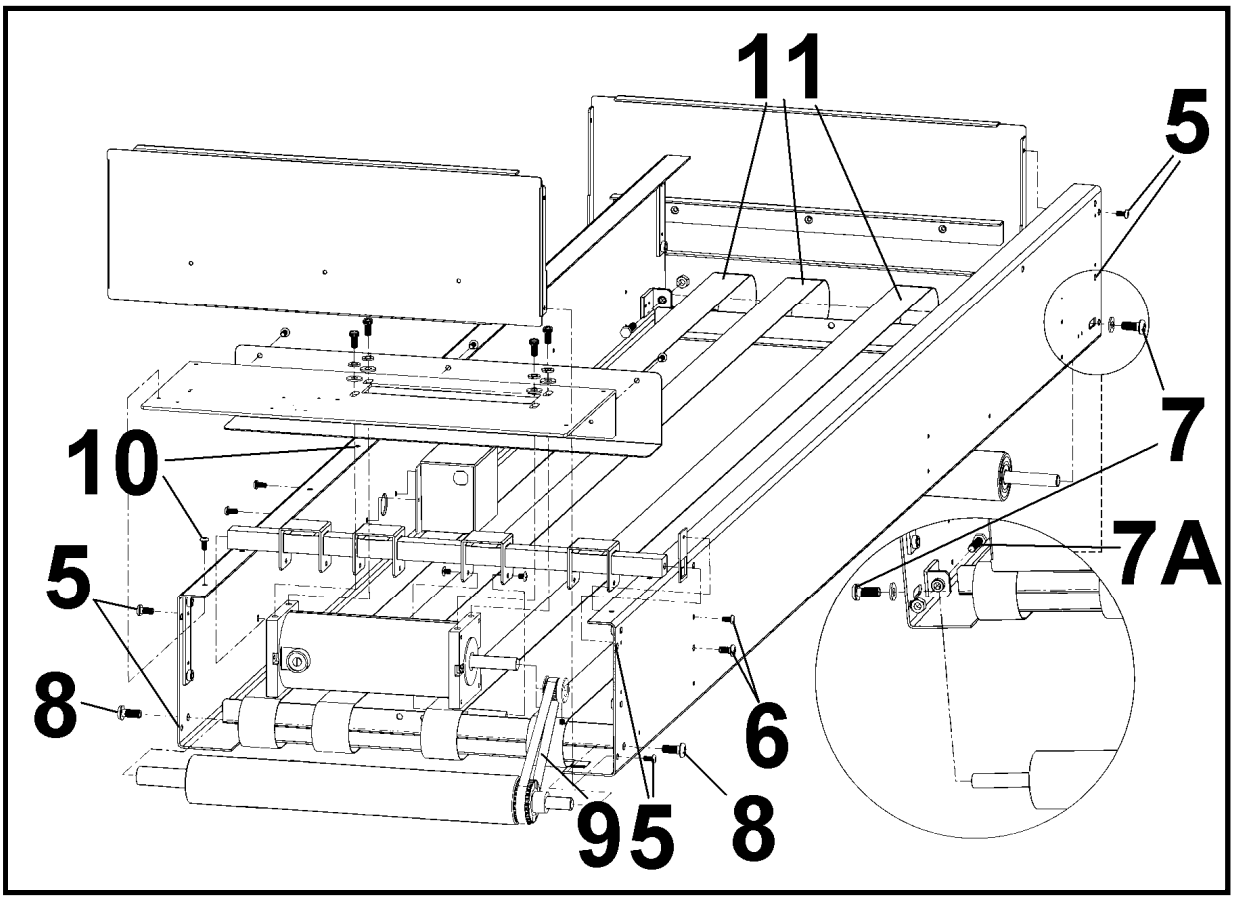
2. Remove the three screws [3] and the Stacking guide.

3. Carefully turn the Conveyor over onto two supports as shown and remove the six screws [4] from each leg. Then remove the leg.

NOTE: This should be accomplished by two people, one holding the leg and the other removing the screws.



4. Remove the left and right cover plates by removing the four screws [5].



5. Remove the two screws [6] and the one screw (not shown) and then remove the belt guide assembly.

6. Loosen the two roller adjustment screws [7A], and then remove the two screws [7] from the ends of the roller. Remove the roller from the machine

7. Remove the two screws [8] and then remove the drive belt [9] from the motor and remove the drive roller.

8. Remove the four screws [10] from the motor mounting plate and remove the motor.

9. Remove the belts [11].

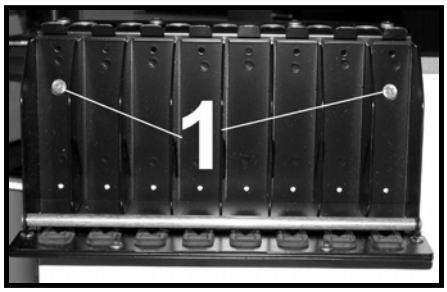
10. The motor is fastened to the motor mounting plate with four screws and lock washers [12]. Remove these to replace the motor.

11. Reassemble in reverse order and adjust the belt tension.

Printer

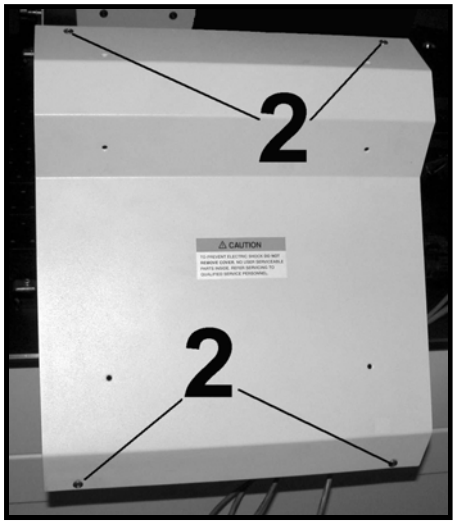
Rear Cover Removal

1. Remove the two screws [1] that attach the capping station to the printer's frame.



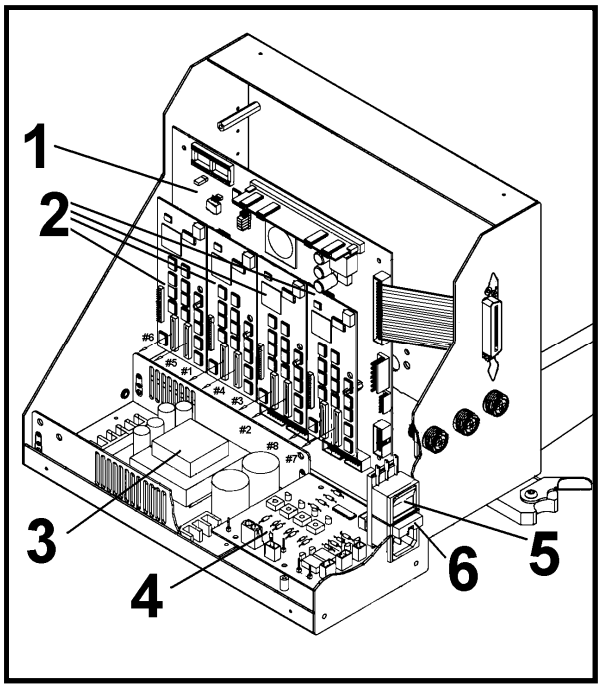
2. Remove the four screws [2] that attach the rear cover to the printer and remove the cover.

NOTE: If the Printer is a PCL model with a USB connector. Unplug the USB cable from the Main PC Board when removing the cover.



3. The following components are located under the rear cover:

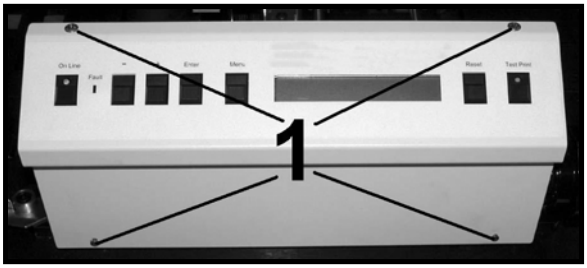
   1. Main PC Board
   2. Printhead Driver PC Boards
   3. Power Supply
   4. Interface PC Board
   5. On/Off Switch
   6 Printer Fuse



4. The PC Boards are mounted to the chassis with screws. Unplug the wires at the PC Board and then remove the screws.
5. Reassemble in reverse order.

Front Cover Removal

1. Remove the four screws [1] that attach the front cover to the printer.



2. Disconnect the cable [2] to the display panel and remove the cover from the machine.

Appendix A – Specifications

XPS-ProMail System

DIMENSIONS	XPS-ProMail Base: 43” W x 35” D x 51” H base only XPS-ProDry Base: 28” W x 28” D x 48” H with dryer installed TB-659 Conveyor: 82” W x 26” D x 35” H
WEIGHTS	XPS-ProFeed Shuttle Base: 80 lbs. XPS-ProMail Base: 108 lbs. XPS-ProDry Base: 110 lbs. TB-659 Conveyor: 110 lbs.
ELECTRICAL	XPS-ProMail Base: 250VAC, 20A, single phase, , 4 wire XPS-ProFeed Shuttle: 120VAC (Connects to 120V switchable outlet, inside XPS-ProMail Base.) XPS-ProDry Base: Powered by XPS-ProMail Base. 8000W Dryer: 240V, 50A, single phase, 3 wire TB-659 Conveyor: Powered by XPS-ProMail Base

XPS-ProFeed Shuttle Feeder

MATERIAL HANDLING:	Minimum Size: 5” (127 mm) L x 3” (76.2 mm) W Maximum Size: 17” (431.8 mm) L x 14” (355.6 mm) W
THICKNESS:	Single Sheet to 3/8”
TYPE:	Open ended Z-folded flyers Envelopes Small Booklets Card Stock
SPEED:	0 to 30,000 pieces per hour
ELECTRICAL:	120 VAC 50/60 Hz (220 VAC also available)
DIMENSIONS:	29” W x 28” D x 48” H
SHIPPING WEIGHT:	150 lbs.

XPS-ProMail 3.0/4.0 Printer

PRINT TECHNOLOGY	Inkjet, 6 or 8 HP 51645A Cartridges	
PRINT QUALITY (Dots Per Inch)	Executive Quality	600 x 600 dpi
	Standard Quality	600 x 300 dpi
	Letter Quality*	600 x 200 dpi
	Draft Quality	600 x 150 dpi
IMAGE AREA	3" or 4" x 17"	
PRINT ORIENTATION	Normal and Reverse	
FONTS	All TrueType fonts available on PC. USPS certified Postnet barcodes	
PRINTS	Prints bitmapped graphics and logos	
MATERIAL SIZE	Minimum:	3" W x 5" L
	Maximum:	15" W x 17" L
MATERIAL THICKNESS	20 # Bond up to 1-1/4"	
PRINT COLORS	Standard and Versatile Black, Red, Blue, Green, Yellow, and HP Bulk-Ink Cartridges	
INK	Water based. May require drying assistance for coated stock	
PC INTERFACE	Centronics Parallel	
COUNTERS	One job counter and one lifetime counter	
DIMENSIONS	11" H x 14" W x 28" D)	
WEIGHT	55 lbs.	
ELECTRICAL	100-240VAC, 50/60 Hz	

The information (electrical and physical dimensions, etc.) on the XPS-ProMail System is presented here for your reference. Specifications are subject to change without notice.

Appendix B – Supplies

The following supply items and optional hardware are available from your Rena Systems Dealer.

Supplies

Black Inkjet Cartridge	HP 51645A
Fast Drying Black Inkjet Cartridge	C6195A
Yellow Inkjet Cartridge	C6173A
Red Inkjet Cartridge	C6168A
Green Inkjet Cartridge	C6169A
Blue Inkjet Cartridge	C6170A
Versatile Black	C8842A
RENA EasyInk	C8715A
RENA EasyInk Aqueous (requires dryer)	C9007A

Notes

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08/16/2006